Vol. 3 No. 1
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ATARI CLASSICS

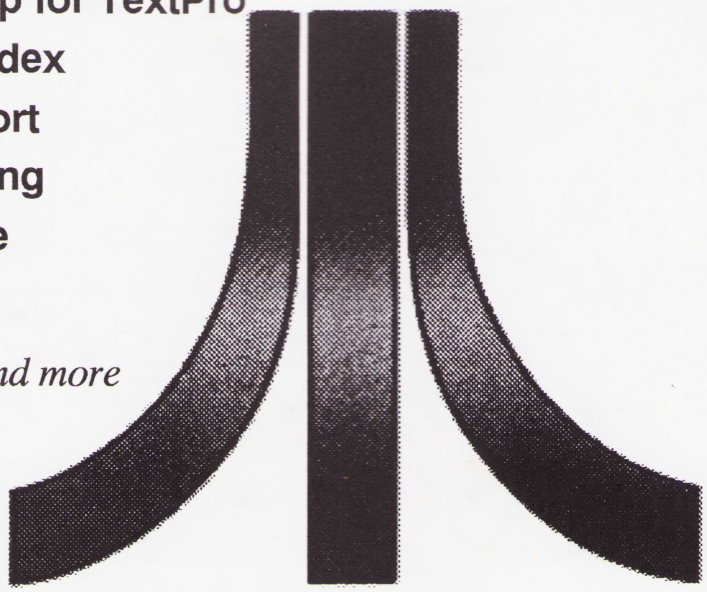
The Magazine for the Dedicated 8-Bit User

Potpourri Issue

In this Issue:

Intellectual Property Protection for Computer Software
Programming with Daisy Dot Fonts
Easy On-line Help for TextPro
February Disk Index
Treasurer's Report
The Joy of Printing
The Starting Line
News Roundup

...and more



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Technical Consultant: Bob Puff
Managing Editor: Ben Poehland
179 Sproul Rd./Rt. 352
Frazer, PA 19355-1958 USA
Magazine Staff:
Circulation Editor: Ben Poehland
Advertising Editor: Bob Scholar
2535 Tamalpais Ave.
El Cerrito, CA 94530
Hardware Editor & Utilities Software Editor: Charles Cole
1590 Foothills Drive
Sierra Vista, AZ 85635
Educational Software Editor:
Bart Bresnik
555 Ware St. Mansfield, MA 02048
Graphics & Entertainment Software Editor: Jeff Potter
814 Banbury Drive
Port Orange, FL 32119
Telecommunications Editor:
Lawrence Estep
524 Roseview Terrace
New Albany, IN 47150-4457
Exchange Editor: James King
4729 South 4180 West
Kearns, UT 84118
Resource Editor: John Hardie
90 Judith Lane
Valley Stream, NY 11580
Disk Editor: Steve Hoffee
333 Peninsula Drive
Lake Almanor, CA 96137
Disk Distribution Manager:
Alex Pignato
Assistant Disk Distribution:
Jon Mordosky
Staff Columnists: Ed Hall, Paul Alhart
Mike Jewison, Jeff McWilliams,
Ben Poehland, Dave Richardson,
Contributing Authors:
Thomas Andrews, Michael Current,
Ron Fetzer
Staff Reviewers: Bob Hardy, Gary Matteson, Alan Sharkis,
Bob Woolley
Correspondents:
Itay Chamiel (Israel)
Dean Garraghty (British Isles)
Don LeBow (Hawaii)
Marek Tomczyk (Germany)

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Intellectual Property Protection for Computer Software

by Michael Current, AC Contributing Author

Introduction

The legalities of computer software are often poorly understood. In this article I'll attempt to acquaint you with the laws of intellectual property protection for computer software, especially those pertaining to copyrights. While copyright protection is the central topic here, I'll also touch on the areas of patent protection, trade secret protection, and trademark protection as applied to computers. Once some background in copyright law has been provided, popular terms such as "commercial software," "shareware," "freeware," and "public domain" software will be defined and explored in their legal meanings, and a few ethical questions are posed as well.

Intellectual Property Rights

Ideas, symbols, names and forms of expression are typical examples of intellectual property. If an author or inventor chooses to allow use of his/her property by others, the intellectual property laws come into play. These laws attempt to strike a reasonable balance between the ability of authors and inventors to control the use of their property versus the right of the public at large to have free access to new ideas and forms of expression.

The U.S. Congress offers creators of computer software three direct types of intellectual property protection: patent protection, copyright protection and trade secret protection. Many products make use of two or even all three of these techniques. [9,p.2]

Additionally, trademark protection may be employed to protect a product name, symbol, device, or a combination of these, from use or misuse by others. Trademark registrations cover an initial five-year period, with renewable twenty-year periods so long as the trademark remains in use.

Patent Protection

A patent protects ideas and algorithms in a computer product rather than the particular set of code used to implement them. By providing 17 years of exclusivity in the marketplace, patents usually are the broadest and most powerful form of protection available to a developer, as long as the invention in question is "nonobvious" in nature. Two basic types of patents are utility patents and design patents.

Examples of utility patents include inventive functions, methods, systems, and algorithms, including applied mathematical formulas. Design patents, while not protecting the functional aspects of a screen display or a portion of computer code, protect the graphical or ornamental aspects of a screen display. Over 10,000 U.S. patents had been granted for software inventions by 1989.

However, patents for computer software aren't widely utilized. [9,p.3] This can be attributed to the unofficial opposition to the practice by the Patent and Trademark Office, the very high relative cost of obtaining a patent, and the several-year application process necessary to obtain a patent. Also, the large amount of disclosure of product information required can jeopardize the possibility of trade secret protection. [6,p.83]

Copyright Protection

The United States recognizes the following seven rights exclusively to a copyright holder: 1) Reproductive right: to reproduce the work in copies; 2) Adaptive right: to produce derivative works based on the copyrighted work; 3) Distribution right: to distribute copies of the work; 4) Performance right: to perform the copyrighted work publicly; 5) Display right: to display the copyrighted work publicly; 6) Attribution right (or, the paternity right): to claim authorship of the work and to prevent the use of his/her name as the author of a work he/she did not create; 7) Integrity right: to prevent the use of his/her name as the author of a distorted version of the work, to prevent intentional distortion of the work, and to prevent destruction of the work [4,part2].

Copyright applies to virtually all computer software. It protects the form of expression, both source and object code, from duplication or close imitation. Beyond the program code itself, copyright may be applied to the program's structure, sequence and organization, and some elements of the user-interface (the "look and feel"). The copyright holder may prevent others from modifying or adapting the product for distribution in its modified form. Protection under copyright is easily obtained and enforced, but cannot protect underlying functions, methods, ideas, systems or algorithms, and it cannot protect against independent creation of the same or a similar work.

Trade Secret Protection

Information and ideas must be of value, not readily known to others, provide a demonstrable competitive advantage, and be subject to reasonable efforts to maintain their secrecy to qualify for trade secret protection. Code, ideas, and concepts may be treated as trade secrets so long as they aren't obtainable through other products by lawful means, including reverse engineering. The technology isn't protected if it's produced independently by others. The idea can even be patented by others if they develop it in-

dependently. A trade secret is forever lost when the secret becomes general knowledge. Usually trade secret protection is used in combination with patent and/or copyright protection for software products to provide more complete protection.

Copyrights In Detail

The copyright laws are found in Title 17 of the United States Code, which is based on the Constitutional power of Congress "To promote the Progress of Science and useful Arts, by securing for limited Times to Authors...the exclusive Right to their...Writings..." [4,part2] In this context, copyright law doesn't protect ideas, only the ways in which they're expressed. The 1909 Copyright Act was inadequate for addressing computer software, yet the Copyright Office chose to accept computer programs as literary works beginning in 1964. [6,p.35] The present Copyright Act was passed in 1976 and became effective January 1, 1978. The question of copyrightability of software programs was temporarily put off, to be settled by the National Commission on New Technological Uses of Copyrighted Works. This finally led to the Computer Software Copyright Act of 1980, amending the 1976 law so it explicitly applies to computer programs. [6,p.35]

If a software program was originally created by the author and not copied from someone else, and it is stable enough to be stored in any way, then it was automatically protected by copyright law since the moment of its creation. Protection under copyright extends for the life of the author and, except for rights six and seven above, 50 years beyond the author's death. In the case of "works made for hire," (discussed below) protection lasts for 75 years from the year of first publication or for 100 years from the year of creation, whichever ends first. Although copyright protection is automatic, to protect against "innocent infringement" a proper copyright notice (described below) should be used. In addition, registration of the program with the Copyright Office is required if you want to challenge a copyright infringer in court.

If It Ain't Copyrighted, It's PD!

As of March 1, 1988, the effective date of the Berne Convention Implementation Act, a work does not require a notice of copyright to be protected under copyright law. As with all legalities, however there are some exceptions to this that directly affect you and me—dependent as we Classic Atarians are on the Public Domain for so much of our software these days. If the copyright has expired, or the software was published without copyright notice before 1988, or the copyright is expressly abandonded by the holder, then a computer program becomes part of the public domain. Once in the public domain, there are no legal rights associated with that software. It may be freely copied, enhanced and sold, without any kind of compensation to the original author.

Copyright Notice

A legally recognized copyright notice consists of the following:

1.) a copyright symbol;

2.) the year of first publication;

3.) the name of the copyright owner (or company in the case of works made for hire).

Under the Copyright Act of 1976 the copyright symbol was either "©" "Copyright," or "Copyr.," but "(c)" was not legally sufficient. However, no such copyright notice has been required since the United States joined the Berne Convention in 1988. On the other hand, to be protected under the Universal Copyright Convention (U.C.C.) treaty, which includes some countries that haven't signed the Berne Convention, a copyright notice as described above is still required. Note that the U.C.C. only recognizes "©" as the proper copyright symbol. Also seen in the field is the phrase "All rights reserved." This phrase was required under the Buenos Aires Convention, but all members of that treaty are now signatories of either the U.C.C. or the Berne Convention, so "All rights reserved" is no longer meaningful.

A copyright owner may register a copyrighted work at any time during the duration of that work's copyright protection. It's an absolute requirement if you wish to bring suit against an infringer of your copyright. However, monetary compensation is largely only available if the work was registered *before* the infringement took place. [6,pp.51-2] Registration of copyright involves sending the required deposit material, consisting of source and/or object code, plus a $10 filing fee to the Copyright Office of the Library of Congress. Because materials that are deposited are available for public inspection, a variety of special rules may be invoked to protect possible trade secrets contained in the machine code. [6,p.53]

Co-ownership And Works Made for Hire

By default, copyright ownership rests with the original author of the software. If there are co-authors, then each author is a co-owner of copyright for the work. Co-ownership of copyright, as in other material items, can be very inconvenient and produce legal headaches if disagreements arise.

A work made for hire, on the other hand, is either: —a work created by an employee being paid for the creation of that work, or —a work commissioned outside the company as part of a set of related products being collectively developed. The first case always results in the copyright ownership resting with the employer, while in the second case ownership remains with the author unless it is expressly agreed in writing that

ownership is transferred to the employer. Such agreements are the rule rather than the exception. [4,part3]

Piracy Is Infringement!

Copyright infringement occurs whenever one of the seven rights exclusive to the copyright holder are violated, and is popularly termed "piracy." If the violation occurs within the scope of employment, then the employer is also liable for the act, even if unaware of the employee's activities. Any person who induces or causes another to commit copyright infringement is liable as well.

When considering whether piracy has taken place, the concept of "fair use" must be understood. That is, the law expressly allows for any copying steps necessary for legitimate use of the software, such as copying the program from disk to RAM. The second part of "fair use" is the right to make a personal copy of the software for archival purposes, so long as all copies are either transferred with the original upon change of ownership, or are destroyed at such a time.

However, it's important to note that "fair use" only applies to copies of software that have been purchased. Much of today's software is not purchased by users but rather licensed to users. [9,p.46] In this case the license agreement will expressly state what rights are granted to the licensee (user), while all other rights remain with the copyright owner. *[Editor's Note: these license agreements are frequently printed on the outside of the envelope containing the magnetic disks. Breaking the seal on the envelope means you automatically agree to all that legal mumbo-jumbo printed there, even if you don't bother to read it (and most people don't, including me!). - BP]*

Popular Terminology

Lowest in the hierarchy is public domain software: software that can be freely copied, modified, and/or sold for profit, without notification or compensation of the author. It has been shown above that software placed into the public domain is the exception rather than the rule. The only real way for a program to enter the public domain is for the copyright holder to unambiguously declare it so, thereby forfeiting all intellectual rights associated with it.

Often confused with public domain software is Freeware. Freeware is software that can be freely distributed but not modified in any way. The programmer wishes his/her creation to see maximum distribution at no cost to its users, but he/she also wishes to retain full intellectual property rights for the program. What is happening here is a mandatory license agreement between the copyright owner and the user. The programmer retains full copyrights, except for those rights expressly granted to licensees, those persons who obtain the software.

Next up the line is Shareware. In fact, the only difference between Shareware and Freeware is that among the conditions stated in the programmer-written user license agreement is the demand that a certain amount of money be sent to the author. In markets too small to support more than a few commercial software developers, this can be an effective way to market software for a small profit.

At the top of the hierarchy is commercial software. This bracket includes all software that must be purchased by the user at the time of acquisition. As briefly discussed above, commercial software can be further divided into software sold to users and software licensed to users. A user who has purchased a copy of commercial software has not purchased the copyrights in any way, and may not violate any of the seven rights which remain exclusively held by the copyright owner. Licensed software, on the other hand, is software where only a few rights are explicitly granted by the copyright owner to the user. The user has purchased nothing but the license agreement, and is usually required to return the copy of the software to the owner when the terms of the agreement are violated. Such agreements are usually imposed by the developer to further limit the rights of the user beyond those granted by copyright law.

In addition to categorizing computer software by the amount of payment required, it's also useful to group all copyrighted software into these two categories: 1) Purchasable commercial software, where ownership of the copy, but not the copyright, is transferred, and 2) Licensed software, which includes freeware, shareware, and the rest of commercial software, where ownership remains with the copyright holder. Users of purchased commercial software must abide by copyright law, while users of licensed software must abide by both copyright law and the license agreements beyond copyright law.

Questions For Future Research

The field of computer copyrights is enormous, much more than I can present in a single short introductory magazine article. My limited research has left many questions unanswered, especially issues that directly affect the Atari 8-bit user community. Clearly, no copyrights have expired for computer software created since 1978, but what if a commercial program is no longer commercially available? What if the commercial developer has long since disappeared into bankruptcy? Agreements can be made between the programmer and employer in this case so that copyrights revert to the author, but from my limited observation this doesn't seem to be the default course of events. Is

it legal to obtain pirated copies of commercial software if the developer no longer exists? What if the vendor exists but has long since lost interest in the product? Legalities aside, does one have a right to pirated software that is unavailable legitimately? These are standing legal controversies in the 8-bit community, but unfortunately I'm not planning a career in law! Hopefully, the extensive bibliography following this article will inspire someone else to take up the challenge and enlighten us further.

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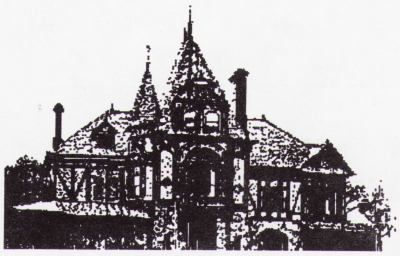
We're Late!!
(Or, *AC* Versus The Killer Winter of '94)

Unless you've been away on a Caribbean vacation the past three months, you've probably seen the news about the severe winter we've had here on the East Coast of the USA. The sub-zero temperatures, numerous ice- and snowstorms, power outages, and even an earthquake thrown in for good measure (I'm not talking about the Big One in L.A., I mean the 4.6 temblor that trashed *AC*'s offices a day before California got theirs) have wreaked havoc unlike anything people in these parts have ever seen. The time normally spent editing *AC* instead got spent shoveling snow, hacking ice with a pickaxe, scraping ice from the car, recovering from sore muscles caused by overexertion and falls on the ice, and worst of all the monster traffic jams that saw me arriving home late from work night after night, half-frozen and exhausted from hours of white-knuckle driving. As of this writing (the second week of February), the Killer Winter shows no sign of letup (we got another 18 inches of snow/sleet last week), and I'm grateful to have thus far survived without serious accident or illness.

Production on this issue of *AC* began on schedule the first week of January and was moving along just fine when the first of several nasty ice storms knocked out power for 4 straight days, during which I went without heat/light/power in sub-zero weather and half the vacation time I'd reserved to work on the magazine got sucked into a Black Hole. I didn't shave, bathe, or change clothes for 5 days, and slept in front of the fireplace with my shoes on. Upstairs, toothpaste froze in the tube and matters of personal hygiene became, well, rather challenging. A half-cord of seasoned hardwood, plus the loan of a kerosene heater from a friend when the wood ran out, saved the plumbing from freezing. Work resumed on this issue around the middle of January, only to be set back by the cleanup from the 'quake (no damage, but a huge mess when stacks of magazine-related files and papers ended up in a jumbled heap on the floor). A few days later a "rolling blackout" during another ice storm wiped out all the progress I had made on this issue since power was restored after the first ice storm.

Around the end of January there was a brief thaw, commuting time approached normal, and during the first week of February slow progress resumed on this issue and the editing of our Software Disk was completed. In the 2nd week of February we got clobbered with two major snow/sleet storms that once again slowed things to a crawl (and also crumpled the roof of my toolshed, crushing an expensive lawnmower). Progress has been slow and painful (literally), and we'll be doing well to see this issue mailed out in March. Readers should also expect the April issue to be about a month late.

- Ben Poehland, Managing Editor



The Garret

The Joy of Printing

Ed Hall, AC Staff Columnist

Shelf Space Crunch

I recently experienced a storage problem known to all computer owners: lack of shelf space. Over the years I've accumulated so many magazines and manuals and catalogs and printouts that I either had to build a new wing on the house or start throwing things away. Simple choice, really. Unfortunately the bank refused to give me a loan, so I had to start tossing stuff.

The logical place to begin was a row of boxes, mostly games, which filled the topmost shelf. The boxes were empty, their contents safely stowed away in handier locations. As I took them down, a rush of memories flooded over me. There was still magic in their fantastic covers, though the sleek starships and brawny warriors turned out to be little more than stick figures on my computer screen. Somehow, in those days, it didn't seem to matter.

You remember how those early games were packaged? Breakfast cereal-size boxes with the cartridges hidden inside like prizes. Either Atari's marketing crew came from Kellogg's, or they figured a big price required a big box.

Origin Of DTP

Then I pulled out a yellow box which was, if you can believe it, even larger than those early Atari games. But here I paused, for this one really did deserve a big box. Like VisiCalc, it was one of those landmark programs that changed the face of computing. I'm referring of course to Print Shop, a product that's been around so long we've forgotten how revolutionary it was. Newer and better programs have emerged since then, but none has been easier to use.

I have a very clear memory of the first time I used Print Shop, of the elation I felt when, after a few simple keypresses, my printer cranked out a birthday card. My sense of accomplishment was out of all proportion to the unimpressive little card I had produced. A cynic would have drily observed that Hallmark had nothing to fear from such efforts. The cynic would have been wrong. As the parent of several young children, I've noticed that more birthday parties are now announced by home-printed cards than purchased ones. But the importance of Print Shop goes far beyond mere greeting cards. Print Shop was the sire of a whole new industry: desktop publishing, or DTP.

Back in the mid-1980s, it was DTP that saved Apple's bacon. The Mac was little more than a yuppie toy until PageMaker from Aldus gave it and the Apple LaseWriter a powerful raison d'etre. Had the Mac gone down the drain, the graphical interface may soon have followed. The ST and Amiga may not have been strong enough to champion it, and at that time Windows was little more than a hump on the back of MS-DOS.

But DTP's importance does not stop there; it should bring to mind one of the most powerful catchphrases in the world: freedom of the press. In these days of multinational corporations and media conglomerates, of newspaper chains owned by tycoons like Rupert Murdoch and Conrad Black, software publishing programs are powerful antidotes. They ratify the populist aspirations of the many visionaries who assisted at the birth of the personal computer. They recall names from the '70s like Computer Lib, Community Memory, and the People's Computer Company. To the people associated with these movements, the term "computer revolution" was not a figure of speech. Their foe was epitomized by IBM, the maker of IMpersonal computers. For computer visionaries in the '70s, "power to the people" meant not having to submit a batch of cards to a flunky in a white lab coat. Today, that power is here, and taken for granted. If the pen is mightier than the sword, then the right to bear arms is less important than the right to own a computer.

So, how could I throw out that silly yellow box? Maybe (I reasoned) it might even be worth something in the future. After all, people pay big money for old comics, old stamps, old trading cards. Why not historic software boxes? Very carefully, I put all the boxes back on the shelf and resolved to see my bank manager again. We really did need a new wing on the house... .

Atari DTP

There are quite a few DTP packages available for our machines. Commercial offerings include Newsroom, News Station, Publishing Pro, Page Designer, Typesetter, Daisy-Dot 3, and a British program called Page Marshall. PD programs include Page Editor, Page Layout, Digital Editor, Antic Publisher, The Works, Dot-Magic, Daisy-Dot 2, and Hi-Resolution Dump. No doubt there are more.

The exact definition of DTP is fairly hazy, and many of the programs above are not equal in terms of capability, ease of use, and quality of output. The key element is the ability to print a full page of combined text and graphics. All other features, however useful (such as multiple fonts, image libraries, text and graphics editors), are highly desirable but not essential. According to this definition, word processors which can accomodate graphics, like PaperClip, or the Word Magic/Graphic Magic combo, can lay claim to DTP capability. However, we would probably draw the line at art programs which have the ability to use text.

If you only need to produce a flyer, or a single page, then any of the programs noted above would suffice. Which one you use will be a matter of personal preference or need. However, if you want to produce something longer, your choice is immediately narrowed down by three factors:

a) Ease of text entry. The longer your document, the more typing you'll have to do. You want this to be as painless as possible. b) Legibility of text. In a one-page flyer your overriding concern is generally an eye-catching design. You can afford to use fonts more for effect than readability since not much text is involved. In longer documents, however, readability is crucial. c) Multi-column printing. In longer documents, text is easier to read when it's in two or three columns.

For the last several years, I've produced a family newsletter each Christmas. My requirements were quite simple: two columns, the occasional picture, and a title or banner at the top of the first page. I decided to try out

different DTP packages. Let me share the results with you.

Newsroom

This program is capable of true DTP by any definition. Its strongest feature is its graphics capability. Not only does it have a large library of top-notch images (called clipart), but it can also position them just about anywhere on the page. The program has a lovely-looking Macintosh-style interface, though the actual layout procedure is a bit tedious. That's the good news.

The bad news is that the text editor is an absolute dog. Believe me, you'd rather be staked out over an anthill than use it for more than a few paragraphs. Here's but one example: to delete a character you are told to "move the cursor onto that character and press the [Delete] key." Only it doesn't work. You must press [Shift] + [Delete] because, as a technical support person rather sanctimoniously informed me, "[Delete] on the Atari is an upper case function." A close look at your keyboard will tell you this is correct, but can you think of any other program which actually uses it this way?

The printed output is even worse. Newsroom has only two fonts suitable for the body of a newsletter, and both are just too cramped for happy reading. After several pages of this, your eyes will feel like squeezed lemons. In particular, the leading (the space between lines) is too narrow. For this reason the liberal use of images in a Newsroom-generated product is not an option, it's an absolute necessity. Take a good look at the impressive-looking examples provided in the manual, and you'll realize that a great deal of care has been exercised in providing lots of pictures, and lots of white space, to relieve the claustrophic appearance of the text.

It gets worse. My print-outs inserted a single, unwanted line feed beneath each plate. (Newsroom divides each page into 8 areas of equal size, called plates.) Nothing I could do resolved the problem. Finally I had to rewrite my text so that the bottom of each plate coincided with the end of a paragraph. This way the extra linefeed was disguised as a space between paragraphs. Of course, this solution was made especially painful by the wretched text editor.

My wife has used Newsroom on the Apple II, and encountered the same problem. However, she eventually found a solution (though she couldn't remember what it was.) I ended up writing to Springboard, the publishers of Newsroom, to ask for help. The response (which, by the way, came from Spinnaker, following a merger of the two companies), said simply that Newsroom didn't support the interface I was using, the MPP-1150. Not too helpful, since neither their letter nor the manual mentioned which interfaces the program did support. I was sure, however, that the problem would cease when my trusty P:R: Connection (which had blown up during a thunderstorm) was replaced. I was wrong.

News Station

Next I tried News Station, and eventually it became my program of choice. Composing text is a dream because you can use your own word processor. The only drawback is that the copy must be chopped up and saved in plate-sized chunks of 20 lines each. It's a nuisance, but if you have a word processor like PaperClip, which allows you to mark a spot in the text and delete everything before or after it, the task is fairly painless. News Station doesn't have a library of pictures created especially for it, but it can use Print Shop icons and any standard 62-sector GRAPHICS 8 picture. It can also use any number of standard 9-sector fonts.

News Station is not without flaws. Unlike Newsroom, there is no provision for making banners. This means the left side and the right side of my newsletter's title had to be created separately. I did this by using an art program (Blazing Paddles, which has a nice selection of fonts), and by keeping track of the X and Y coordinates to make sure the text on both sides would line up properly.

This problem is rectified by News Station Companion, which permits the creation of a single plate suitable for use as a banner. It can also break a long text file into plate-sized chunks, and perform a couple of other useful functions. The publisher of these programs, Reeve Software, also produced an advanced version of News Station called Publishing Pro. However, this program is reported to be less versatile and more tricky to use than its predecessor. There was an excellent review of all three programs in the December 1987 issue of *ANTIC.*

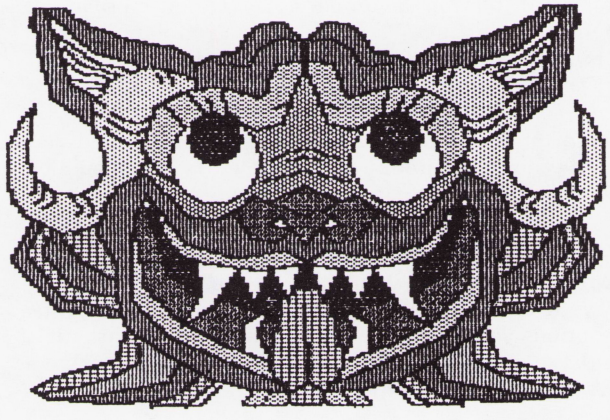
Fun Stuff

The road to DTP started out with a program to produce greeting cards. This imaginative coupling of computer and printer got people thinking about other ways to produce creative hardcopy. One of my favorites is a commercial program called AwardWare. It prints out a lively assortment of certificates, awards, licences, coupons, tickets, ribbons and other similar items. Though I don't use it often, it's a handy program to have when you've got children in the primary grades. It comes with approximately 100 designs or templates, plus an assortment of fonts, borders, and graphics.

Another innovative program is Dennis Griffin's Paper Planes. This PD disk contains designs for seven paper airplanes, as well as an art program (called variously Polypaint or Digidraft) for creating new ones. Paper Planes is in the same league as Print Shop when it comes to user-friendliness. Just select the design you want and make a single keypress to print it out. On-line folding instructions are clear and easy. What a neat program!

So neat, in fact, it spawned an offshoot by Joan Ryan called Mask Maker, which prints out three different kinds of children's masks: full, half, and sculptured. The enhanced density disk contains 22 masks (an example is shown below), plus instructions and utilities for creating your own. I've printed out several for my youngest daughter, and have begun receiving requests from her friends in kindergarten. Mask Maker is PD and is powered by the same code found in Paper Planes.

Next issue, more joy... . See you then!



Prepare A Professional Treasurer's Report

by Ron Fetzer, *AC* Contributing Author

The Job No One Wants

If you belong to a computer club, civic association, sports club or charitable organization you probably know how difficult it is to get a member to accept the position of club treasurer. Are your club's finances in a mess? Is your treasurer's report written on the back of an old envelope? Well, help is on the way! Just use the Treasurer's Report Program (TRP) and all your troubles are over. Check out the TREASRPT.COM file on *AC*'s February Software Disk.

This program makes it so easy to be a club treasurer that you'll have members climbing over each other to volunteer for the job. *[Offers of free food/liquor also help. -Ed.]* TRP prints a professional report that's easy to read and understand without being an accountant. It's written in modular TurboBASIC-XL and runs only on the Atari XL/XE computers.

Treasurer's Report is intuitive and easy to use. It's also heavily error protected to prevent typo mistakes and wrong entries. The program accepts up to 200 income items and up to 200 expense items. I've served as Treasurer of the Ol' Hackers Atari User Group for some years now, and with that wealth of experience behind me I put everything into TRP that a club treasurer could ever want. TRP is completely driven by self-explanatory menus. Upon booting up TRP you'll see a main menu that gives you eight options: Directory, Start Program, View On Screen, Print, Save, Load, Erase A File, and End. Straightforward stuff, really.

Your New Career: Treasurer!

To start using TRP, just select option #2 (Start Program) on the main menu, which will pop you into the Information Screen. Here you'll have to answer some prosaic questions like today's date, your name, the club's name, etc. When you're finished, the "Income" screen will come up. First you enter a description of the income item and then the amount of the income. Do *not* use a comma (,) or dollar sign ($) in the entries. When you're finished entering your income items and want to leave Income section of the program, just leave the INCOME NAME blank and enter "00" for the INCOME AMOUNT. (There's a prompt at the bottom of the screen to remind you of this.) You can even type in a name for this last item if you'd like (such as "END" etc.), but it won't be recorded by the program because you entered "00" for the amount. You can also erase the last entry by putting "**" into the description prompt.

Immediately upon exiting the Income section you'll enter the Expense section, which works exactly like the Income section. You just enter all the expense items by Description and Amount. When you're finished you enter "00" for the amount of the last entry, and you'll be directed back to the main menu again.

Massage Those Files!

Now you can view your data on the screen, print it, or save it to a disk. With the Save, Load and Erase A File options you only have to enter a filename without a disk drive designation. TRP assumes that it is Drive #1. A loaded file can only be VIEWED or PRINTed.

With the View On Screen option I inserted scrolling stops into the program so you can examine your report conveniently. With this option all the essential income/expense data is displayed on your screen.

The Print option gives you a fully formatted professional treasurer's report printed out in hardcopy. It will have your club's name as the headline, the date of the report, the old balance and date, and the income and expense items with a running current balance. It will also show you the Total Income as well as Total Expenses on your report. The penultimate item will be the new balance and its date, followed finally by the name of the person who prepared the report. You can also specify how many copies of the report you'd like to print. Take a look at the Directory option. It gives you much more information than just a directory listing. I included a provision to erase MEM.SAV in the D8: RAMdisk in order to give you more free RAM space. This option also checks which revision of AtariBASIC is installed in your computer. Since TurboBASIC-XL isn't a built-in BASIC, the directory option says "NO BS". There are some other features you'll also see with the Directiory option.

Customizing TRP

The print routine in Treasurer's Report Program was written for Epson and compatible printers. If your printer isn't Epson-compatible you can easily change the few printer control codes to your printer's codes. They are clearly indicated in lines 1330 - 1380.

If you live in a country other than the U.S.A. you might want to change the "$" to your country's currency symbol. The "$" appears in lines 530, 630, 790, 1000, 1010, 1040, 1120, 1130, 1160, 1170, 1520, 1580, 1600, 1640, 1670, 1690 and 1700. This will make the program useable in other countries as well. *[Editor's Note: you can make a custom self-booting TRP disk by copying the files TREASRPT.COM and TREASRPT.ARB from the AC February '94 Software Disk onto a formatted disk containing AtariDOS 2.0 or 2.5 (NOT SpartaDOS!). Rename the TREASRPT.COM file to AUTORUN.SYS to make TRP self-booting. To examine the TurboBASIC listing for making your own customized version of TRP, press the BREAK key after booting up TRP, which will dump you directly into the TurboBASIC editor. Type LIST <CR> to see the program listing, using CTRL-1 to start/stop screen scolling. -BP]*

Wrapping Up

If you or someone you know belongs to a club or an organization then give them the Treasurer's Report Program. They'll love it. Being a treasurer with this program makes the job easy. Not only will you save a lot of time, but you'll also receive compliments on the clarity and completeness of your treasurer's reports. You won't have to struggle with spreadsheets, databases, check balancing programs or calculators. You can sit back and enjoy your club and bask in the prestige of a job well done. But watch out-- with the secret of TRP now public knowledge, you may have to fend off competitors for your treasurer's job at the next club meeting!

Programming With Daisy-Dot Fonts

by Thomas J. Andrews, *AC* Contributing Author

DD Fonts: Neat Stuff!

We've all seen the fantastic Daisy Dot NLQ fonts used in Dave Richardson's column, "Exploring the Wild FONTier," and many of us have used one or more of the Daisy Dot series of programs. But how would you like to know how to use Daisy Dot fonts in your own programs? It's a snap once you know how the Daisy Dot system works. (You non-programmers, stick around awhile. There's something for you here, too.)

Before we start, be aware this article only applies to fonts created for the original Daisy Dot and Daisy Dot 2 (files with the .NLQ extender). The structure of Daisy Dot 3 font files with extenders of NL1, NL2, etc. is different, and they won't work with this system. Lack of space prevents me from explaining them here. (Translation: I haven't figured them out yet!) Also, this system may not work with printers other than those listed in the program: Epson compatibles (specifically the Epson LX-series), Star Gemini 10X, and the Atari XMM801.

What Is A Daisy Dot Font?

Daisy Dot (hereafter called DD) fonts are printed using the graphics capabilities of the dot-matrix printer. Half the dots that form the characters are printed on one print line, the paper is advanced a minimal amount, and the rest of the dots are printed, filling in the spaces in the first set. This is much the same method used by printers with built-in NLQ capability.

DD fonts are also proportional. This means the characters have different widths. For example, an "I" wouldn't be as wide as a "W". The use of proportional fonts increases text readability. Some printers have a proportional mode, others don't. Some that do, don't have an NLQ proportional mode. DD character widths can be expressed in "dots." Each character can be as narrow as one dot or as wide as 19.

DD fonts don't support all ASCII characters. Only characters with ASCII values of 32-95, 97-122, and 124 are supported. Another thing to remember is that DD fonts are only 8 points high. (A "point" is 1/72nd of an inch, or one dot.) Most dot-matrix printers print 9 point text.

File Structure

The first record of a DD font file is always "DAISY-DOT NLQ FONT." Any program using DD fonts should check for this record and provide error handling if it isn't there.

The rest of the records contain the character bit maps, one record per character. The ASCII value of the first byte is the width of the character. The next few bytes are the values to be sent to the printer for the first line, followed by those for the second. For example, if a character is 8 bytes wide, the first byte of the record is a CHR$(8). The next 8 bytes are the bit maps for the first part of the character, and the 8 bytes after that are for the second part.

There are two ASCII values that can't be in a DD bit map. These are CHR$(13) and CHR$(155). Some interfaces issue a line feed whenever they get a CHR$(13), the ASCII value for a carriage return. All interfaces for the Classic Atari change any CHR$(155) they get to a CHR$(13). Most interfaces aren't smart enough to know when these values are part of a data string, so they change them all. (By the way, this is true of any 8-bit program dealing with printer graphics.)

An Example

So now you have all the information you need, and you can go ahead and use DD fonts in your own programs, right? No? All right, I'll program an example for you. While I'm at it I'll make it do something useful. With all the DD fonts in the Public Domain, it would be nice to have a way to have a printed sample of all your fonts, each printed in the same way and in several densities, so you could compare and contrast them for yourself.

FONTEXAM.BAS (on *AC*'s February '94 Software Disk) does just that for you. If you just want to use it, not analyze it, go ahead. It'll work with either AtariBASIC or TurboBASIC, but TurboBASIC is a bit faster. It's designed to work with AtariDOS 2.0s or 2.5. I don't know if it'll work with others DOSs. *[Editor's Note: It works with the SpartaDOS-X cartridge, BASIC XL, BASIC XE, and should work equally well with SpartaDOS 3.2d and MyDOS. -CC]*

All you have to do is follow the prompts. When asked for the "FONT NAME MASK," use any DOS 2.n-legal file name. If you don't specify a device code, disk drive D1: is assumed. The .NLQ extender will be added for you, so don't include it. Wild cards are accepted. Use "*" or RETURN to do all NLQ fonts on D1:.

FONTEXAM will search the directory for NLQ file names that fit the mask, then print them, one at a time, in three densities (two for the XMM801). The file name is also printed using the DD font. Up to nine fonts can be printed on a page. For those with more than one font disk, FONTEXAM will pick up printing of the new disk where the old one left off.

Back To You Programmers

To help you understand what's going on here, I've sprinkled REM's throughout the program to identify the functions of each section. The text of each REM is in inverse for easy identification. After an information-bearing opening screen, FONTEXAM gets the printer type from the user and assigns the proper graphics function commands for that printer. (We'll ignore the M/L routine for the moment.) If you have any thoughts about releasing a program using printer graphics, please try to support as many printers as you can. There are lots of older printers still in use, and not all are Epson-compatible.

Next, the program gets the filenames of the fonts it's to print and stores them in the variable called FL$. This is done by requesting a filename mask from the user and getting a directory listing for that mask. To avoid getting the "free sectors" message included as a filename, check for an "S" at the end of each directory record. Filename entries in DOS 2.n always end in digits, and the sectors message always ends in "S". The number of fonts to print is stored in NF.

Now we have to load a font. After getting the first filename from the list, the font file is opened and checked for the identifier record. Before we can load this font, we have to pay attention to just how we're going to store it in RAM, since the storage method, in large part, depends on the access method. I can think of four basic ways to store/access a DD font, and there are probably more than that. I'm going to use the DELIMITER method.

Delimiter: Say What?

A delimiter is a marker used to separate subgroups of data within a larger group. The occasional paragraph

headings in this article could be considered delimiters. With this method, if you want to find a particular data subgroup all you have to do is scan for delimiters and count until you find the right one. This can be done very quickly using machine language, with minimal code.

By its very nature, a delimiter must be something that can't appear in the data *as* data. In the case of a DD font, a first glance shows two possibilities, CHR$(13) and CHR$(155). But remember, characters could easily be 13 bytes wide, and the width is included in the font data. This means that CHR$(155) is the only choice. Fortunately, one choice is quite sufficient.

So, the loading process consists of inputing each set of character data and storing it in one long string, with CHR$(155)'s between each set. The string must also have a CHR$(155) as its first character. Access to this data will be through the use of the M/L routine in DDFIND$. When called with the USR function, the address of the start of the font data [ADR(FONT$)] and the ASCII value of the character to be printed are passed along to it. When finished, DDFIND$ returns the FONT$ position of the width byte for that character. If DDFIND$ is called with a non-DD ASCII value, a 0 is returned.

FONTEXAM lines 290-370 show how to use DDFIND$ to prepare a DD output line for a printer. With all the printers supported by FONTEXAM, graphics printing is pretty much the same in general form. Only the individual graphics command codes are different. Each sequence starts with a CHR$(27), followed by a byte indicating the density to be used. This byte is the one that's different for different printers.

The next two bytes are the low and high parts of the number of data bytes to be sent. Depending on the density used, the maximum for this number is 480, 960, or 1920 bytes. Some printers will have even more densities, with different limits. Check your printer manual for them.

The rest of the command is the string of data bytes. Each byte will produce a vertical row of up to 8 dots, with the individual bits determining which dots are printed. Bit values of 1 produce dots; 0's do not. On these printers, Bit 0 controls the lowest dot; Bit 7 controls the one on top.

To prepare for the output procedure, the print output strings must be filled. Each print line requires two passes, remember, so there must be two strings. For the first print line, LBL$ contains the text to be printed, the filename of the current font. For each character in turn, DDFIND$ is used to locate the width byte in the font data. Let's say it's a CHR$(8). The next 8 bytes of the font string are placed at the end of OUT$, the first line of print data. The next 8 bytes after that are put into OUT2$, the second line of print data.

Character Spacing

DD fonts don't contain any data for the space between letters. That must be provided by the user/program at print time. This feature allows the user to adjust for readability of the font and to program for microspace justification as found in commercially printed books, magazines, and newspapers. In FONTEXAM, I use standardized letter spacings, which are detailed on the opening screen. This is done by adding CHR$(0)'s, the ATASCII heart character, between each group of character print data in both OUT$ and OUT2$, one for each microspace. It's most important to use the same number of 0's in each string.

Once the data strings are filled, the next step is to calculate the high and low bytes of their length. Both strings are the same length, so this only has to be done once.

There's one more thing to check on before the actual printing takes place. Remember, all Atari printer interfaces change CHR$(155)'s to CHR$(13)'s, and some add on a CHR$(10). While there won't be any 155's or 13's in the DD data, there could easily be one or the other in the low byte of the string length. (Print line length limits keep it out of the high byte.) If the low byte DOES turn out to be a 155 or 13, a 1 must be added or subtracted from it, and the output string lengths adjusted accordingly. In FONTEXAM, I know the last byte of both output strings is a 0 (microspace), so I shorten each string. If this isn't done I can practically guarantee some mighty strange results from your printer!

Anything Else?

Now we're finally ready to print a line. To do this, issue the following byte sequences to the printer. Be sure to use PRINT # and put a semicolon on the end if you don't want to issue a CHR$(155), or use PUT #. Do NOT use LPRINT!

1. Change the line feed size to the minimum possible for the printer.
2. Position the print head by issuing spaces or using tabs.
3. Issue the appropriate printer graphics command sequence for the desired density.
4. Issue the low, then the high bytes of the output string length.
5. Issue the entire first output string (OUT$ in FONTEXAM), followed by a CHR$(155). (The printer will produce a carriage return and minimal line feed.)
6. Repeat steps 2, 3, and 4.
7. Issue the entire second output string (OUT2$ in FONTEXAM),followed by a CHR$(155).
8. Issue a one-time line feed command of the proper size to position the print head vertically for the next line.

Step 1 need not be repeated for subsequent lines, but remember to restore the line feed size when you're done using DD fonts.

This procedure could've been done without changing the line feed size, but then it wouldn't have worked with all the printers listed. This particular procedure will work with all combinations of interfaces and these printers, at least all those that I know about.

There now, that wasn't so difficult, was it? The only other thing to remember is to be sure the output strings aren't longer than the maximum dots/line of the density you're using. In fact, it's best to keep it one short of that limit. Some printers will issue a full-sized line feed as that last dot is printed, and that would really mess things up. Others will send an error message back to the computer, and a few will just sit there, looking confused.

For double- or triple- width characters, just use each data element two or three times in the character output. Other special effects are possible. Play around with it. You can't hurt anything, as long as you back things up first.

All the Daisy Dot program packages are copyrighted by Roy Goldman, so you can't use his program code without permission. The DD fonts, however, are all in the Public Domain, so you can do whatever you want with them.

Typing FONTEXAM: Watch Out!

You can create a working copy of FONTEXAM from the magazine listing on page 13 by typing in the listing and SAVEing it to disk under the filename FONTEXAM.BAS. Watch out for line 110 (the M/L subroutine): typing that line is hairy! Due to the length of the program and the typing difficulty, most readers will probably want to just run it from the menu on the *AC* February '94 Software Disk. Readers with questions or problems, try contacting me on GEnie: J.ANDREWS24 (or Internet: j.andrews24@genie.geis.com). Be sure to leave your full name, mailing address, and e-mail address if you wish a reply.

Daisy-Dot Font Examiner (Atari Classics)

```
10 REM DAISY DOT FONT EXAMINER
20 REM by Thomas J. Andrews
30 REM
40 DIM FONT$(5000),OUT$(2000),OUT2$(2000),TXT$(200),LBL$(20),FL$(640),NAME$(8),DDFIND$(100)
50 ? "{CLR}{DOWN}{DOWN}{DOWN}DAISY DOT FONT EXAMINER":? "{DOWN}Prints examples of Daisy Dot Fonts in different densities on an Epson,"
60 ? "Gemini 10X, or Atari XMM801 printer."
70 PRINT "{DOWN}{DOWN}Character spacing will be as follows:{DOWN}{DOWN}":? "Low Resolution.....2 dots"
80 ? "High Resolution.....4 dots":? "Ultra-high Resolution...8 dots"
90 ? "{DOWN}{DOWN}{DOWN}Press RETURN to begin...":INPUT TXT$
100 REM ML ROUTINE TO FIND DD FONT MAP FOR ASCII CHARACTER
110 DDFIND$(1)="hh,Lh,{hh ▼,I,UI &/▯K0+I+p'&/)[,MP 8i},MIAp & FMfIKI▼P 'FMP\fTP fU+fTP fUfKPefLPa"
120 DDFIND$(54,54)=CHR$(155)
130 REM
140 ? "{CLR}{DOWN}{DOWN}{DOWN}PRINTER TYPE?":? "{DOWN}1. Epson Compatible":? "2. Star Gemini Compatible"
150 ? "3. Epson MX Compatible":? "4. Atari XMM801":POSITION 2,15:? "NUMBER,PLEASE?"
160 TRAP 140:INPUT PTYP:PTYP=INT(PTYP):IF PTYP<1 OR PTYP>4 THEN 140
170 IF PTYP>2 THEN ? "Ultra-High Resolution is not available with this printer.":? :? "Press RETURN":INPUT TXT$
180 LORES=75:HIRES=(PTYP(4)*76+(PTYP=4)*86:URES=(PTYP=1)*90+(PTYP=2)*122:GOSUB 470:REM SET PRINTER COMMANDS
185 OTLF=(PTYP=2)*18+(PTYP<>2)*27
190 TRAP 760:OPEN #2,8,0,"P:":GOSUB 460:REM PRINT HEADER
200 REM GET NEXT FILE NAME, OPEN FILE, INITIALIZE FONT$, CHECK FOR DD IDENITY
210 LBL$=LBL$(1,3):IF LBL$(3,3)<>":" THEN LBL$=LBL$(1,2)
220 FOR N=3 TO 10:IF FL$(N,N)=" " THEN N=11:GOTO 240
230 LBL$(LEN(LBL$)+1)=FL$(N,N)
240 NEXT N:? FL$(1,10)
250 LBL$(LEN(LBL$)+1)=".NLQ":CLOSE #3:OPEN #3,4,0,LBL$:FONT$=CHR$(155):INPUT #3,TXT$
260 IF TXT$<>"DAISY-DOT NLQ FONT" THEN ? LBL$;" IS NOT A DAISY DOT FONT!":GOTO 450
270 REM LOAD DD FONT
280 FOR I=1 TO 91:INPUT #3,TXT$:FONT$(LEN(FONT$)+1)=TXT$:FONT$(LEN(FONT$)+1)=CHR$(155):NEXT I:CLOSE #3
290 REM SEND FILENAME TO PRINTER USING DD FONT
300 OUT$="":OUT2$="":FOR L=1 TO LEN(LBL$):A=ASC(LBL$(L,L)):WPOS=USR(ADR(DDFIND$),ADR(FONT$),A)
310 W=ASC(FONT$(WPOS,WPOS)):OUT$(LEN(OUT$)+1)=FONT$(WPOS+1,WPOS+W):OUT2$(LEN(OUT2$)+1)=FONT$(WPOS+W+1,WPOS+W+W)
320 OUT$(LEN(OUT$)+1)="▼▼▼▼":OUT2$(LEN(OUT2$)+1)="▼▼▼▼"
330 NEXT L
340 OUTHI=INT(LEN(OUT$)/256):OUTLO=LEN(OUT$)-OUTHI*256:PUT #2,27:PUT #2,51:PUT #2,1
350 IF OUTLO=155 OR OUTLO=13 THEN OUTLO=OUTLO-1:OUT$=OUT$(1,LEN(OUT$)-1):OUT2$=OUT2$(1,LEN(OUT2$)-1)
360 PUT #2,27:PUT #2,HIRES:PUT #2,OUTLO:PUT #2,OUTHI:? #2;OUT$
370 PUT #2,27:PUT #2,HIRES:PUT #2,OUTLO:PUT #2,OUTHI:? #2;OUT2$:PUT #2,27:PUT #2,74:PUT #2,OTLF
375 OUT$="":OUT2$=""
380 REM PRINT FONT IN 3 DENSITIES, 2 ON XMM801
390 POKE 77,0:I=32:MAX=455:MODE=2:GOSUB 600
400 I=32:MAX=935:MODE=4:GOSUB 600
410 IF PTYP<3 THEN I=32:MAX=1895:MODE=8:GOSUB 600
420 REM GO TO NEXT FILE AND CHECK FOR PAGING
430 PUT #2,27:PUT #2,74:PUT #2,OTLF:NF=NF-1:IF NF=0 THEN 780
440 FPG=FPG+1:IF FPG=9 THEN PUT #2,12:PUT #2,27:PUT #2,64:GOSUB 460:REM PAGE FULL
450 FL$=FL$(11):GOTO 210
460 ? #2;"_       DAISY DOT FONTS":? #2:? #2:FPG=0:RETURN :REM PRINT HEADER
470 ? "{CLR}":REM GET FONT FILE NAMES
480 ? :? :? :? :? "Font Name Mask?":? :? "(No Extenders, Please.)":? "(Default Drive: D1)":FL$="":NF=0
490 ? "(Use '*' to print all fonts on this    disk.)":INPUT NAME$
500 IF NAME$="" THEN NAME$="*"
510 LBL$="D1:":TRAP 520:IF NAME$(2,2)=":" OR NAME$(3,3)=":" THEN LBL$=""
520 LBL$(LEN(LBL$)+1)=NAME$:LBL$(LEN(LBL$)+1)=".NLQ"
530 ? :? :? "Please insert the Font Disk and Press RETURN"
540 INPUT TXT$:CLOSE #1:OPEN #1,6,0,LBL$:TRAP 570
550 INPUT #1,TXT$:IF TXT$(LEN(TXT$))="S" THEN 570
560 FL$(LEN(FL$)+1)=TXT$(1,10):NF=NF+1:GOTO 550
570 ? "There are ";NF;" fonts to examine":CLOSE #1:IF NF=0 THEN 480
580 RETURN
590 REM SEND FONT TO PRINTER IN ONE DENSITY
600 IND=USR(ADR(DDFIND$),ADR(FONT$),I):IF IND=0 THEN I=I+1:GOTO 600
610 W=ASC(FONT$(IND,IND)):OUT$(LEN(OUT$)+1)=FONT$(IND+1,IND+W)
620 OUT2$(LEN(OUT2$)+1)=FONT$(IND+W+1,IND+W+W)
630 FOR II=1 TO MODE:OUT$(LEN(OUT$)+1)="▼":OUT2$(LEN(OUT2$)+1)="▼":NEXT II
640 I=I+1:IF I>124 THEN 660
650 IF LEN(OUT$)<MAX THEN 600
660 CMD=(MODE=2)*LORES+(MODE=4)*HIRES+(MODE=8)*URES:PUT #2,27:PUT #2,CMD
670 OUTHI=INT(LEN(OUT$)/256):OUTLO=LEN(OUT$)-OUTHI*256
680 IF OUTLO=155 OR OUTLO=13 THEN OUTLO=OUTLO-1:OUT$=OUT$(1,LEN(OUT$)-1):OUT2$=OUT2$(1,LEN(OUT2$)-1)
690 PUT #2,OUTLO:PUT #2,OUTHI
700 ? #2;OUT$
710 PUT #2,27:PUT #2,CMD:PUT #2,OUTLO:PUT #2,OUTHI:? #2;OUT2$:PUT #2,27:PUT #2,74:PUT #2,OTLF
720 LINES=LINES+1:OUT$="":OUT2$=""
730 IF I<124 THEN 600
740 RETURN
750 REM ERROR TRAP, ASK FOR MORE FONTS
760 ? :? "TURN ON YOUR PRINTER, PLEASE!          THEN PRESS RETURN"
770 INPUT TXT$:GOTO 190
780 ? "{CLR}{DOWN}{DOWN}{DOWN}MORE FONTS?(Y/N)":INPUT TXT$:TRAP 780:IF TXT$(1,1)<>"Y" AND TXT$(1,1)<>"y" THEN END
790 GOSUB 470:GOTO 440
```

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Exploring The Wild FONTier

by David Richardson
AC Staff Columnist

This column is not the result of the desktop publishing of Unicorn Publications. It was printed entirely by a program called Daisy Dot III, a print processor. The printer used was a Star NX-1000, and the DOS was SpartaDos 3.2d. A camera-ready copy was sent to the publishers and they then inserted it directly into the magazine. DD3 is a shareware program. See the information at the end of this article if you are interested in acquiring DD3.

In my last column, I said I would show you how to use PrintShop icons with DD3. Here is how it's done.

Thanks, John!

The first thing you need is a utility created by John McGowan called PSTODD3.BAS. It is a public domain program written in BASIC and it works very well. I include this utility, along with other DD3 related programs, with my Daisy Dot III User's Guide, available on disk.

Decisions, Decisions!

Once the program is loaded, you are asked which disk drive is the source (the PrintShop disk) and which is the destination (the font disk, already formatted). You must know the correct name of the PrintShop icon. It is then converted into the first character, out of a possible 30, DD3 multi-file font. I will explain what multi-file fonts are later. Once the icon is converted, you are then asked for another icon. You can insert another PrintShop disk if you want, and choose an icon on the new disk. Once you have converted the icons you want, you hit control-Q, and PSTODD3.BAS finishes out the font.

One converted icon takes up three characters. Since there are ninety characters possible in a DD3 font, you can have up to 30 icons in a font. Doing this, however, would create a huge font file, over 300 sectors according to the Mr. McGowan's documentation. John recommends limiting each font to about five to ten icons. I think that this is a good idea. Since DD3 accesses each font from the disk each time the font change command \F is encountered, this means that every time your theoretical 300 sector-long font is accessed, DD3 must load in the entire font file, even if only one character is used. As you can imagine, not only would this make the printout times extremely long, it could really put your disk drive to task, constantly loading the entire font to print only one character.

I would not recommend creating such a font unless you can access it from a rather large RAMdisk or a hard drive. Since not everyone has a RAMdisk or hard drive, I have decided that any fonts that I make in this manner I will try and limit the size.

One thing you should know is that any icons you wish to include in any single font while using PSTODD3.BAS must all be converted in the same session. You cannot put five icons in a font, exit the program, and then decide to add some more. Thus, you also cannot delete an icon from a font. So, if the icons in a font are important to you, you should think out very carefully which ones you want before using the program. Also, since each icon is made up of three typed characters in the text file, you will have to change the character spacing value to zero each time you wish to print the icon correctly. I'll give you an example. I have a letterhead which I use on all of my correspondence. In it I use the following icons:

I used PSTODD3.BAS to create a font I called PRSDNTS.NLQ, and these two icons are the only characters in the font. To print the icons as you see above, here is what the text reads:

```
\Fprsdnts\\S0!"# $%&
```

If I had not used the command \S0, then the printout would look like this:

The first icon of George Washington is represented by the characters !"#, and Abraham Lincoln is represented by the characters $%&.

Another thing you must know is that you are stuck with the sizes of the icons created in this manner. Since these are already magnified fonts, which I will talk about later, then you can't make them any larger

using the magnify utility that comes with DD3. The only change you can make in size is if you print the icon in high density, or if you use the width command. Of course, doing either of those would result in an incorrectly printed icon.

What's What?

When the program converts the icon into DD3 format, it always starts at the beginning of the font. You cannot decide which three characters you want to represent an icon. The order of the characters used is the same as the order that they are printed out when you use the DD3 Font Editor to print out an entire font. Thus, the characters !"# will always represent the first icon created. It then proceeds down the line until all characters are used. The documentation provided by Mr. McGowan has a table in it that you can use to determine which 3 characters will result in which icons, numbered 1 through 30, for a given font. Here is the relevant information from his documentation:

ICON	CHARS	ICON	CHARS	ICON	CHARS
1	!"#	2	$%&	3	'()
4	*+,	5	\-./	6	012
7	345	8	678	9	9:;
10	<=>	11	?@A	12	BCD
13	EFG	14	HIJ	15	KLM
16	NOP	17	QRS	18	TUV
19	WXY	20	Z[\\	21	]^_
22	abc	23	def	24	ghi
25	jkl	26	mno	27	pqr
28	stu	29	vwx	30	yz |

Using this table, you would know that in order to print the twenty-second icon in an icon font file, with the icon font loaded in, and the horizontal spacing set to zero, print abc and the twenty-second icon will be printed correctly. You will note that two of the icons require four characters:

Icon number five has \-./

As I explained in a previous article, the reason for this is that, in DD3, the hyphen is soft! That is, when Roy Goldman created DD3, he realized that some hyphenated words can be broken up at the hyphen if that hyphenated word is at the end of a printed line. In order for the character spacing to look the best, he made DD3 so that if it comes across a hyphen in the middle of a word, it can break up that word at the hyphen so that the part in front of the hyphen (including the hyphen) is on one line, and the part after the hyphen is on the next line. If you do not want a word broken up at the hyphen, you must precede that hyphen with a backward slash(\) to prevent it. So, if you happen to print the -./ for the icon too near the right margin of a line, it will NOT be all printed on the next line, but will break after the hyphen, in the middle of the icon, splitting the icon up, part on the original line, part on the next line. If you replace the - with \- (the hard hyphen) you will prevent this.

Icon number twenty has Z[\\

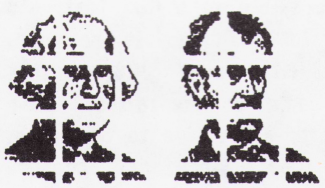
The reason for this is that the backward slash(\) is the command delimiter in DD3, not a regular character, and so it is not normally printed. In order to actually print it, it is necessary to type two hyphens in a row in order for one to be printed.

Magnified Fonts

When designing your own fonts or modifying existing fonts, you need the DD3 font editor which comes with DD3. The font editor will allow each character to be as large as 32 pixels by 32 pixels. It will not go larger than that. If, however, you want a larger font, you use the DD3 font utility which comes with DD3. The DD3 font utility will do one of three things. It will take an existing font and create an italicized version of it. It will take an Atari screen font, or character set, and convert it to a DD3 font. It will also take an existing DD3 font and magnify it vertically by a factor of 2, 3, or 4. It will not magnify horizontally. Use the width command \W for that. If the resulting magnified font has a greater heighth than the 32 pixels allowed in the editor, it will create a second, third, or fourth file, if necessary. The first file will have the extension NLQ. The second file will have the extension NL2. The third file will have the extension NL3. The fourth file will have the extension NL4. When you want to call up a multi-file font, such as a magnified font, you only need to call up the first one, the one with the extension of NLQ. DD3 will automatically know that to print out the font correctly, it will also have to load in the fonts that go with it. All of the files of a multi-file font must always be together on the same disk, and in the same directory. DD3 will treat all of the multi-file fonts as one file. Earlier, when I showed you the icons of Washington and Lincoln, the command was:

\Fprsdnts\\S0!"# $%&

Although only one font, PRSDNTS.NLQ is called up, three others were also loaded. The font PRSDNTS.NLQ is actually a multi-file font. When DD3 loaded PRSDNTS.NLQ, it also loaded PRSDNTS.NL2, PRSDNTS.NL3, and PRSDNTS.NL4. Here is what the four fonts look like printed out separately:



is PRSDNTS.NLQ

is PRSDNTS.NL2

is PRSDNTS.NL3

is PRSDNTS.NL4

Think of each of those files as one-fourth of the font. DD3 knows that this font is a multi-file font. It

automatically loads the others. The end result is a font that is 2, 3, or 4 times as high as a normal font. One problem with treating these fonts as one font, is that even though each is technically a font in its own right, only one line of normal text can be printed beside them. Look at the following example:

David Richardson

Here is the command for the above example:

```
\Fprsdnts\\S0!"#\T\Fplain\\S2David
Richardson\Z\R\Fprsdnts\\S0$%&
```

Notice all of the wasted space underneath my name between the icons. There is no way to type in the text in order to include things such as another line for my address, a line for my city and state, and a line for my phone number. They would have to be added underneath, like this:

David Richardson

P.O. Box 746
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913-843-5213

Obviously this does not look that good. What is needed is a way to print the top fourth of the icon, then print in the text for the name. Next, print the second fourth of the icon, and print the address. Next, print the third fourth of the icon and print the city and state. Finally, print the last fourth of the icon and print the phone number. What is needed is a way to treat each of the four icon files as a separate font. Well, Mr. McGowan again came up with a solution.

Split 'Em Up

It turns out that the files in a multi-file font are just like a normal font, except for a few bytes in the file. John figured out that he could load each file into TextPro, which is a shareware text editor for those of you who may not know. With TextPro, he could change the appropriate bytes, and save the file back, with the result being that the file could be printed out as a font by itself. Of course, each font was only one-fourth of the icon. Since there was no user-friendly way to change the bytes, John created his own. What he did was, he created a TextPro macro which, when executed, would load in the appropriate files, change the bytes, and re-save them back. The macro is called FNTSPLIT.MAC, and it also included with my user's guide. It is the only way I know of to split a multi-file font into its separate components. By making these changes, here is an example of what you can do:

David Richardson
P.O. Box 746
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This is roughly what my letterhead looks like. Of course, I used different fonts, margins, etc., but you can see how much better it is, and you can see the possiblities. You could make some nice mailing labels, for instance.

Since these fonts are now a font in their own right, you could, if you were REAL industrious, load each one into the font editor and change them. You could even load each one into the DD3 font utility and magnify them again, or even italicize them, but that would be pretty silly. The utility that converts Micro-Painter screens into DD3 fonts, GR8TODD3, works quite similar to PSTODD3, and it makes multi-file fonts also. Of course, GR8TODD3 is also included with my user's guide.

Do I Have To?

Many of you may be wondering about all of those commands that are necessary for the proper use of DD3. Like most things, the more sophisticated a thing is, the more complicated it is. This is true for DD3. To use the relative shift command \XS, for instance, not only do you need to know the command itself, but you also need to know what numerical value to put after it. Some commands need 1 number, some need 2, and some need 3. Some even use letters instead of numbers for the value. Many of you might have some questions. How can anyone remember everything? Won't I be constantly flipping through the DD3 documentation? The documentation will be dog-eared in a month! It could get very discouraging. Well, let me tell you this: I very rarely refer to the documentation that comes with DD3. Also, I very rarely refer to the User's Guide which I created myself. And, no, I did not memorize all of the commands. Yet I enter the commands with the greatest of ease. How is this so? Again, I have John McGowan to thank.

Mr. McGowan created yet another TextPro macro for DD3 which, in my opinion, is absolutely indispensible. He has taken virtually every DD3 command and made it possible to enter each one with a simple combination of

keys. Once the macro is loaded into TextPro, simply hold down the OPTION button and the appropriate key to get the desired text to be automatically entered into the editor. The end result is that the text you would normally have to type in yourself is done automatically. Here is a listing of the macro keys, what the output is to the TextPro editor, and a description of the command it represents:

Key	TP Output	Description
+	\\	Print \
-	\-	Hard Hyphen
c,C	\C	Centering
[space]	\[space]	Hard Space
f,F	\F	Load font
<	\L	Block Left
>	\R	Block Right
j,J	\J	Justify toggle
u,U	\U	Underline toggle
w,W	\W	Width
s,S	\S	Horizontal Spacing
d,D	\D	Density
l,L	\XL	Left Margin
r,R	\XR	Right Margin
x,X	\XS	Relative Shift
a,A	\XA	Absolute Shift
h,H	\XHH	Indent here
m,M	\XH	Absolute indent
e,E	\E	Erase Tab
p,P	\P	Place Tab
TAB	\T	Tab
z,Z	\Z	End text for C or R Tab
.	\.	Tab with dot leader
n,N	\N	New page
t,T	\XT	Top Margin
b,B	\XB	Bottom Margin
v,V	\XV	Vertical Spacing
g,G	\A	Append file
*	\#	Current page #
1	!"#	PS icon #1
2	$%&	PS icon #2
3	'()	PS icon #3
4	*+,	PS icon #4
5	\-./	PS icon #5
6	012	PS icon #6
7	345	PS icon #7
8	678	PS icon #8
9	9:;	PS icon #9
0	<=>	PS icon #10

Icons 11 through 30 must be entered manually. However, as mentioned earlier, since it is not practical to create an icon font that is too large, this should pose no problem. If you hold down OPTION and hit RETURN, you will automatically get two returns and five spaces for starting a new paragraph. Those five spaces will be the equivalent of 5 spaces for whatever font is loaded at the time DD3 encounters them. Thus, the indention varies depending on the font. I prefer to use the relative shift command \XS010 at the start of each paragraph to create a one-quarter of an inch indention, regardless of the font. Hold down both SELECT & OPTION for the following macros for the little used commands:

Key	TP Output	Description
h,H	\H	Set header
f,F	\G	Set footer
*	\X#	Set page #

For the commands that require you to set a value, the command line of TextPro will display the options or values for that particular command.

This is quite a bit of information to digest, so I'll stop for now. I hope this has shown you how versatile DD3 is.

If you are interested in my User's Guide, which you print out yourself using DD3, you need to send 2 double sided disks for double density, or 4 double sided disks for single density. The disks must be formatted in either SpartaDos, Atari DOS or MyDOS format. You will receive ARCed files. If you have no unARC utility, let me know. Send some money to cover postage. Most people send $5. When all of the files are unARCed, they will fill up 9 double sided single density disks. The disks will include all fonts yet available for DD3 that I am aware of. They will also include the text files necessary to print the guide. The guide is 47 pages long when printed.

Until next time.

David Richardson
P.O. Box 746
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To get DD3, send $25 to:

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For $5 more, Roy will send you TextPro also.

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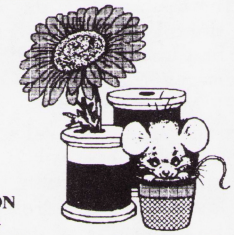

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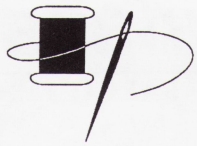
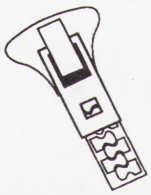


The Fitting Room

A Thousand Words



Mike Jewison, AC Staff Columnist

Best Laid Plans...

I have a philosophy of life that goes something like, "Life is grand until it starts to interfere with the things you really want to do." Such was the case with the December issue of *AC*. When the Grand Exalted Poohbah, our beloved Managing Editor (who also doubles as that Great Analog Wizard, the 8-Bit Alchemist) initially suggested the video theme for last issue, I was delighted. *[Dear me, such extravagant flattery! Sorry Mike, AC still only pays $25 for articles! -BP]* My chosen field is astronomy which, perhaps more than any other natural science, excites the imagination of John (or Jane) Q. Public. The mere mention of the word, astronomy, conjures up visions of planets, galaxies, exotic quasars and more. Call it personal bias, but I don't get the same tingly sensation when I hear the word "chemistry". *[Editor's comment: Hrummmph!]* Needless to say, life caught up with me and here we are in February (or later, if this Killer Winter doesn't end soon). Ah well, better late than never...

Images "R" Us

I have three part-time jobs. I had one full-time job until about two years ago when the Canadian federal government decided to lop huge amounts from the grants which were paying my salary. No salary, no job. (Well, I suppose I could have worked for nothing, but that wasn't my first choice!) I was lucky to find another job in only a couple of weeks, in my chosen field, about a 40 minute drive from home. The place where I spend the bulk of my time now is pretty exciting. I'm working with a group of astronomers who analyze, among other things, images of the outer planets (primarily Jupiter and Saturn) and a number of asteroids. These images originate from a variety of spacecraft, including Voyager 1 and 2, Galileo, and the much-maligned (and now repaired) Hubble Space Telescope.

An important facet of this work is the necessity of being able to access to these images as soon as possible after they're downloaded from the spacecraft. When someone gets observing time with one of these instruments, there's a period afterwards during which they have proprietary use of the data, typically one year from the observation date. After that the data goes into the public domain.

Because of the wide diversity of computer platforms used to analyze these images they have to be stored in a machine-independent format. When we copy files over the Internet, we don't know if they're coming from another Sun, a VAX, or even, (God forbid), an IBM mainframe. And to be honest, we don't really care. All we worry about is whether or not we can read the images once we get them to our machine.

I started thinking (I know, I know, a dangerous pastime) that if I can move machine-independent images between different platforms at work, why couldn't I do the same thing between our Sun workstations and my 8-bit Atari? After all, astronomical images are often among the most beautiful and awe-inspiring available: what better way to show off the video capabilities of the Classic Atari computer?

Spiffy GIFfy

To the best of my knowledge, there isn't any software available for the 8-bits to allow reading of the images we get from the Jet Propulsion Lab, which means I'd either have to write software to read in the images or else find images in some other format. Fortunately, there exists a defacto standard among microcomputer platforms to enable the exchange of graphics images, the Graphics Interchange Format, or GIF, developed by CompuServe. There are literally thousands of GIF files available online. Not just on CompuServe, GEnie, or Delphi but also on a variety of anonymous ftp servers on the Internet and likely on your local BBS as well.

Fortunately for me, many of the sites which contain the images we use at work have taken the time to convert a large number of them into GIF files. So I took one each of Saturn and Jupiter, copied them over to our Sun workstation and wrote them out to a 3.5-inch MSDOS-format floppy to take home. Once there, I fired up my IBM-clone, copied the files from the 3.5-inch floppy to a 1.2MB 5.25-inch floppy, and headed down to the Atari.

I have both a 360K and a 1.2MB 5.25-inch floppy drive for my 800XL. They're connected to the computer via the Black Box/Floppy Board combination from Computer Software Services. The BBXFER software supplied with my Floppy Board flawlessly copied the image files from the IBM floppy to a SpartaDOS 3.2 floppy. (Once I get a high-density 3.5-inch drive for my BB/FB I won't even need to use the PC; I'll be able to bring a floppy home from the Sun workstation at work and read it right on the Atari.)

The most widely known (and certainly the most readily available) package for reading and displaying GIF files on the 8-bits is Jeff Potter's APACVIEW routine. This is distributed as shareware (for which Jeff has set the shareware fee incredibly low) and is available on most of the major online services. What I needed to do initially, then, was to use APACVIEW to read in my planetary GIF images and display them in APAC mode on my monitor. (For more details on APAC, see Jeff's article in the June 1993 issue of *AC*.)

When I finally got the images up on my monitor I was, to say the least, somewhat disappointed. Although there was no mistaking the content of the images (I mean, after all, who could mistake Saturn for anything else?), the rich colors present in the original GIF files, particularly in the image of Jupiter, were conspicuously absent. I tweaked the monitor controls for hours (well, maybe it just seemed like hours), but could never get the images to display anything but the palest of colors.

Read the Manual

Undaunted, I loaded the test pattern included with APACVIEW (COLORS.GIF) to my monitor and attempted to adjust the on-screen colors to match those in the table in the APACVIEW manual. (It's just like adjusting the color on your TV with a test pattern displayed). The APACVIEW test pattern consists of sixteen different colors, but I could only get one or two of them to even come close to

what they should have looked like. One weird thing I did notice was that when I was adjusting the hue and colour controls on the monitor there wasn't a smooth change on the screen. As I fiddled with the hue control the on-screen tint would "stick" for a bit and then change rather abruptly. I started thinking, "Great. Now my monitor's acting up."

While pondering what to do next, I did what any normal person would do: I pulled out a back issue of *AC* and started reading. In his article in the June '93 *AC*, Jeff mentions that certain types of monitors would produce only pale shades of red and blue—even those which otherwise behave perfectly normally. Well, since my monitor seemed to be one of those which didn't behave with APACVIEW, and since Jeff created COLRVIEW to improve upon APAC, I decided to try my luck displaying the images using COLRVIEW.

I used APACVIEW to convert my GIF images into COLRVIEW format files, fired up COLRVIEW, and pulled the image of Jupiter up onto my monitor. Now I was doubly disappointed, because the colors COLRVIEW was displaying were no better than those APACVIEW showed earlier. And loading the COLORS file yielded the same results as it did with APACVIEW. Argh!

Time For An SOS!

Thoroughly perplexed, I fired an email SOS off to Jeff. We corresponded for a while and finally came to the conclusion that, for whatever reason, my monitor was screwy. Not completely, mind you, because the monitor appeared to work normally at any other time. It just wouldn't work with Jeff's software.

Although it seemed real easy to blame the software, I couldn't do that because Jeff reported that other users with the same monitor type (a Technika MJ-10) have reported no problems. I started thinking that maybe the problem lay with the images I was using. It states in the APACVIEW manual that the software works best with GIF files that have fairly saturated colors. Although the image of Jupiter was very colorful, the colors tended to be pastel shades rather than saturated. This was especially true of the image of Saturn. "OK", I thought to myself, "why don't we go and grab some other images, maybe some already converted to COLRVIEW format?" "Self", I said, "that's a great idea!" (Believe me, by this time I really was talking to myself!)

I fired up the modem and connected to GEnie. I then headed straight to Library 20 in the Atari 8-bit area. Library 20 contains nothing but graphics images, many of which are already in COLRVIEW format. I downloaded a couple of likely-looking files (the starship Enterprise and a Klingon Bird of Prey) and copied them over to the Atari.

When I used COLRVIEW to load the images they came up predominantly green. Nice, sharp looking images of the Enterprise, but monochrome images nonetheless. I tried playing with the RGB color registers in COLRVIEW but could only get a single color on the screen at any one time. I couldn't believe someone would upload monochrome graphics images when the software was capable of handling a full 4096 colours, so I figured the problem must lie somewhere else.

Swap Meet

When I troubleshoot a problem like this I try to do so logically; if that doesn't work I then fling everything off the table. There were four variables in the equation here: software (which couldn't be changed), images (which had already been changed), monitor (which couldn't be changed since I had only one), and computer. Since the only component left to experiment with was the computer, I decided it was time for a CPU swap.

I took my trusty old 800 and plugged it into my monitor. I had to copy the software and images from a 1.2MB floppy to a 360kB floppy because my 800 can't access the drives connected to the Floppy Board. I booted up the new SpartaDOS disk, loaded COLRVIEW, and brought up the image of the Klingon ship.

Initially, I couldn't get results any better than with my 800XL. I recalled reading in the APACVIEW docs that monitors offering split video (such as the Technika) work best when the separate luma/chroma inputs are used. Although I was using COLRVIEW, I flipped the monitor into composite mode, adjusted the color registers, and ended up with a decent looking picture: some color (not a lot), but certainly better than the monochrome image I had been getting. I loaded the COLORS test pattern in an attempt to fine tune everything and eventually gave up in frustration. My old 800 was a step up from the 800XL, but it was still giving far from ideal results.

Confusion Reigns

I really don't pretend to understand what's going on here, but I can make a number of guesses. My problems in viewing GIF images with my 800XL appear to be twofold: the colors being produced by the computer are deficient, and the monitor may have some problems in displaying colors properly. Put the two of them together and it's a recipe for disappointment.

All of this has, needless to say, made me somewhat paranoid. I'm beginning to wonder if the Great TKFreeze Explosion I discussed back in October is manifesting itself here. When my TKFreeze board got zapped it had the GTIA plugged into it at the time. And, of course, the "G" in GTIA stands for graphics. Maybe my GTIA suffered some damage which only shows up when I try to run COLRVIEW. *[Editor's Comment: I think it unlikely. My experience with funky GTIA's suggests a bad one will misbehave all the time. I have no personal experience with the Teknika monitor, but I know any number of people who have one and swear by it. A marginal component in the clock/color circuit (as described in "Color and the Clock" in the Dec. '93 AC) could be the culprit. I'd want to monitor the bias on pin 17 of the GTIA to see if it changes during normal color putput vs. when a COLRVIEW file is being displayed. -BP]*

There are a number of other things I could try (and would have if there'd been more time before copy deadline). I could try running the software on my 130XE and see what happens. As I suspect the major source of problems is my monitor, I could try displaying the output on another monitor or even my TV, using the RF jack. I'm certainly going to look at implementing some of the hardware hacks that appeared in the December '93 AC. The truth of the matter, though, is that I am all videoed out. I need a nice long vacation from all this before I hack on it again.

Even with all the problems I encountered, I'm very impressed with both APACVIEW and COLRVIEW. The ability to load and display GIF images in up to 4096 colours on the Classic Atari is something not to be sneezed at. And the shareware fees for both these packages are so low ($10.00 for APACVIEW, $8.50 for COLRVIEW) it really is criminal not to register your copy. The shareware fees also enable Jeff to continue developing software (and I know he's got new, improved stuff in the works). What annoys me most about all this is that my souped-up hardware wasn't up to the task. >Sigh<

[Next time: back to hardware adventures. If you thought I had problems this month, wait till April. There's some scuzzy happenings in the ol' Fitting Room.]

The Starting Line

by John Hardie, AC Resource Editor

Attention Neophytes!

Welcome to a new column in *AC*. As Resource Editor I'm something of a latecomer to the *AC* Staff. I'm an old-time collector of practically everything ever sold under the Fuji symbol ("If I ain't got it, or haven't seen it/heard about it, it probably weren't made!"). Aside from providing assistance to any reader with a question about Atari hardware/software, my particular concern is for the newcomer to the Classic Atari.

Prices on Atari 8-bit computer equipment are falling like a stone. These attractive prices are drawing new computer users to the Atari 8-bit platform. Whether they're being bought at garage sales and flea markets or passed down in the family, the Atari 8-bits are getting into the hands of people who would be more than willing to use them if they just knew what to do. This column will serve as a guide to you novices to help you understand why us old-timers think the Atari is the best 8-bit computer ever made. I'll start with the most basic elements of Atari hardware. You seasoned veterans would do well to keep an eye on this column, too: eventually I might work up to discussing some of the more esoteric products that leaked out of Sunnyvale.

Assembling A System

The first thing you need to do is make sure you have all the components necessary for the type of system you want (or, all the components that should be in that big box of Atari junk you bought for $10 at the yard sale). The main components of your computer system are as follows:

- Video Display
- Computer
- Disk Drive
- Printer
- Accessories (joysticks, interfaces, modem, etc.)
- Software

Not every component is needed for your system. What you want to do with your computer will determine what pieces you need to make a go of it. For example, the person who just wants to play games could get away with a video display, computer, and some joysticks as long as the games are on cartridges (which plug into the computer). On the other hand, if you wanted to play disk-based games or do serious applications like word processing or financial management, you'll need a disk drive and printer in your system as well. To access on-line telecommunications systems you'll need some type of interface and a modem.

A common source of confusion for beginners is to plug in some new accessory and then discover it won't work. In some ways computers are actually rather stupid: they often don't recognize the existence of an accessory unless you tell the computer it's there (video displays are an exception). Most peripheral devices will require some sort of software that alerts the computer of its presence and provides a software interface.

Do I Have Everything?

Let's start with the video display. If you have a TV in your house then you have a video display for your computer. All you need to hook your Atari to your television is an RF switchbox and an RF cable (cable with an RCA plug on each end). The RF switchbox and cable should come with the computer, and is normally attached to the antenna inputs on the TV set.

Another type of video display unit is a monitor. Although Atari never sold their own monitor for the Classic machines, you can use just about any composite monitor available. To use a monitor you'll need a monitor cable available from any of the vendors listed at the end of this article. A few more notes about the video displays before we move on: the Atari 400 and 800 models of computer had the RF cable built-in, so all you need is a switchbox to hook them to your TV. Also, the Atari 400 and 600XL models have no monitor output so you have no choice but to use a TV with those computers. *[Editor's Note: the various video interfaces are described in detail in the December '93 issue of AC, along with a hardware hack to restore the missing monitor output on the 600XL. See "Super Video 2.1XL" in the December issue. - BP]*

Computers!!!

Unlike other brands of computers that have their keyboards seperate from the computer itself, the Atari computers are self-contained units. The computers originally came packaged with the owner's manual, power supply and necessary cables, to connect it to a TV (as mentioned above). There were basically two types of power supplies. One for the 400, 800, and 1200XL models and another for the later XL and XE models. The power supply for the 400, 800, and 1200XL models has an output of 9 volts AC (VAC) which is listed on the supply itself. The other type has a 5-prong plug on the end that will only fit into the later XL/XE models. Below is a quick description of each Atari 8-bit computer model, in the order they were produced, along with the most common amount of memory found on that unit.

Atari 400 - brown-grey case with flip top lid over cartridge slot, membrane keyboard, no monitor output. 16K memory. Produced 1978-79.

Atari 800 - brown-grey case with flip lid over 2 cartridge slots, monitor ouput. 48K memory. Produced 1978-79.

Atari 1200XL - handsome cream-white case and ebony-brown keyboard with silver keys across top, cartridge slot on left side, monitor output. Physically the largest of the XL series. 64K memory. Produced 1982.

Atari 600XL - same color case as 1200XL but

with silver keys on side and cartridge slot on top, expansion port in back, no monitor output. Smallest member of the XL family. 16K memory. Produced 1983-84.

Atari 800XL - same case as 600XL but a little larger, with expansion port and monitor output. 64K memory. Produced 1983-84. Most popular XL machine.

Atari 65XE - grey case with diagonal-shaped function keys across the top, cartridge slot in back, monitor output, no expansion port. 64K memory. Produced 1985-87.

Atari 130XE - same as a 65XE but with extra memory and an expansion port next to the cartridge slot, monitor output. 128K memory. Produced 1985-87. Most popular XE machine.

Atari XE Game System (XEGS) - grey case with cartridge slot on top, detachable keyboard and pastel colored buttons, composite video and audio jacks. 64K memory. Produced 1987-88. Hybrid computer/videogame system, not a hot seller.

This might seem like a lot of different models, but keep in mind that, functionally speaking, some models are slightly updated versions of the older machines. For example, a 65XE is functionally equivalent to an 800XL, only in a newer casing and lacking the expansion port. A 130XE is basically a 65XE with twice as much memory and the expansion port added back in. We'll go into more details on the computers later, so hang on while we look at...

Disk Drives!

The next component of your system we need to identify is the floppy disk drive. It provides off-line memory storage for the computer using 5.25" magnetic disks. There were many disk drive models available for the Atari computers, most of which were made by companies other than Atari. You should be able to pick your drive from the list below.

Atari 810	Rana
Atari 1050	Trak
Atari XF551	Astra
Indus GT	Concord
Percom	Amdek 3"

Most likely your drive is one of the models listed in the first column as these were the most popular. I believe the Atari XF551 is the only drive that doesn't have the model number in plain sight. You can check the label on the underside of the drive to determine if you have an XF551. With your disk drive, you should have an owner's manual, power supply and an Input/Output (I/O) cable. The power supply for the Atari models of disk drive is the same as the one for the 400, 800, and 1200XL models of computer listed above.

The I/O cable (also called the SIO cable beause it attaches to the Serial I/O port) is a cable with a 13-pin female connector on each end. One end of the I/O connector goes into the back of the computer and the other end can go into either of the two ports found on the back of your disk drive. The reason for two I/O ports on the back of the drive is so you can hook up additional drives or printers, etc. (this is called daisy-chaining). If you don't have at least one disk drive with your system, it's highly recommended you get one if you plan on doing anything serious with your machine.

And A Printer Too!

You might also have a printer with your system. Listed below are the Atari printer models with a brief description.

Atari 820 - brown case, 40 columns, cash register type paper, dot matrix.
Atari 822 - brown metal case, 40 columns, thermal printer.
Atari 825 - brown case, 80 columns, requires interface, dot matrix.
Atari 1020 - cream-white and brown case, 4 color plotter, capable of 80 columns, small width paper.
Atari 1025 - cream-white case, 80 columns, dot matrix, text only.
Atari 1027 - cream-white and brown case, 80 columns, daisy-wheel, letter-quality.
Atari XDM121 - grey case, 80 columns, daisy-wheel.
Atari XMM801 - grey case, 80 columns, dot matrix.

All the above printers except the Atari 825 can be hooked up in the same manner as the disk drive. If you have an Atari 825 or another brand of printer (Epson, Panasonic, Citizen, etc.), you'll need an interface to connect it to your system. Atari and several other companies made interfaces for your computer (such as the Atari 850, ICD P:R:Connection and MIO, Supra (or MPP) 1150, Ape-Face, and Computer Software Services Black Box- to name a few.) Your best bet is to contact one of the vendors listed at the end of this article for availability. You should also have an owner's manual and power supply (if necessary). The printers listed above have built-in power supplies except the 822, 1020, and 1027 models. The 822 and 1020 models use the same power supply as the 400 and 800 computers. The 1027 uses a slightly different supply with an output of 9.5VAC and 40VA (listed on the bottom of the power supply). Again, we'll go into more details on the printers later, but for now we just want to make sure you have all the necessary pieces for your system.

Accessories

Now for the FUN part!!! Accessories are the hardware gizmos that allow you to do endless things with your Atari. Here are just a few examples:

Joysticks	Drawing Tablets
Paddles	Light Pens
Trak-ball	Robots
Modems	Home Controllers
Science Kits	Numeric Keypads
Music Keyboards	Light Guns
Voice Synthesizers	Video Cameras

With these different attachments you can conduct scientific experiments, play advanced videogames, steer robots around the room, draw pictures, play music, send/receive electronic mail, have your computer talk to you, or even turn on the lights in your house when your're away. Later in this series we'll cover these "gizmos" more thoroughly.

A Great Computer!

There's a world of opportunity waiting for you with your Atari computer. Many of the products made for the Atari aren't available for any other computers, and the ones that are usually cost a bundle. As this series continues, we'll cover your computer system much more in-depth. We'll talk about the different features and drawbacks of the different models and how to get the most out of them. We'll also discuss some advanced (modems) and obsolete (cassette recorders) hardware for your Atari. For now, you should know what equipment you have and what pieces, if any, you're missing and how to connect them. If you're missing any of the pieces mentioned in this article (owner's manuals, power supplies, I/O cords) contact one of the vendors below and request a catalog. *[Editor's Note: see the October '93 AC for a more complete vendor list. - BP]*

If you have any questions or need more immediate help than this article can provide, please feel free to contact me and I'll do my best to get you going. You can write or call or contact me on the GEnie online service. When calling please remember that I'm on USA Eastern time. Here's the info:

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Easy On-Line Help For TextPro

by Bob Scholar, AC Advertising Editor

AATPQIK.REF

On *AC*'s February 1994 Software Disk you'll find a file called AATPQIK.REF. This was originally a file designed to be a single-page "quick-reference" printout summary of all the commands for TextPro (TP). I found myself using it most of the time as an on-screen "help menu" reminder and modified it for that purpose.

The sidebar in this article incorporates this version with minor adjustments for printing a copy with AtariWriter+ (AT+). I used AT+ to create the TP help menu because AT+ works especially well for setting up tabs and sidebars. AT+ gives you a text window (5 to 249 columns) you can scroll across your screen as necessary to display 40 columns of text at a time. (The only other wordprocessor I know of that does this is Paperclip. TP lets you adjust the columns, but if it can have more than a 40-column screen width I haven't figured out how to make it do that.) Items displayed on your screen in inverse video (highlighted) appear underlined in hardcopy (as seen in the sample Help File listing on this page). I also added a space between the columns of commands in the printed table to make it easier to read.

Using The TP Help File

Explaining how to call up and use this Help File sounds more complicated than it really is. TP has a main menu which is accessed from the TP text editor by pressing CTRL-M. The main menu presents a directory listing and a selection of DOS and other functions. Alphabetically, the AATPQIK.REF help file should appear at the top of the directory list with the bar cursor resting on it. If you then press V (for View), the contents of the Help File will scroll onto the screen. That's all there is to it! You do have to make certain that TP is configured for alphabetical directory sort (the default), and that the AATPQIK.REF file isn't write-locked (or it will be placed near the end of the list).

The items in the Help Menu reference table have been drastically abbreviated. The intent is to provide a quick reminder or reference, not a tutorial. TextPro users can decipher them easily or will know where to hunt them up in the TP documentation for a more thorough description of the commands.

AATPQIK.REF= TP Editing Command Help/Ref.
^=CTRL &=Shift $=SEL %=toggle ,=or

^H Crsr Top	^E Crsr End	^ Arrow Move
^Q <-of Line	^Z ->of Line	^[Sent. Left
^] Sent. Rt	&+ Word Left	&* Word Right
&- Para Up	&= Para Down	^A Case % +Sp
^I Insrt%Rpl	^L Load File	$^L Ld Conf F
^N Fst Rpt %	$^N Ky Clk %	^O False Sp %
$^O Rtns %	^P Print	$^D App 2 Buf
^K Clr Bufr	^Caps Comd %	$<,^< Erase T
^D Del->SWPF	^R Rstor Txt	^U Memry;Crsr
$^U Del Up	$^V Del Down	^W Cursr Posn
^M Menu	^Y Wrd wrp %	^? Word count
$^ -,= Color	$^? Txt Lum	$^Z Sceen On
$^X Scrn Off	$^C Sel Chg$	$^F Sel Find$
^C Change $	^F Find $	^G Globl Repl
^X exit->DOS	$^S Sv Cnf F	$^I Scrn Fnts
^Tab +5 Spcs	&> +255 Spcs	&Del Del Spcs
^J DFLT Parm	^T Macro %	$^B use Bankd
$[ ] Inverse	FUJI Txt%ATA	^B Sw Ext Bnk
&Tab set TAB	^; CR,LF,ESC	^V Ld MACRO F

^S,$^Q Save File(+ Spc,$P= same Filename)
^L + *.*,D [Return] = List Directory.

By the way, TextPro version 5.0 is now complete, and the docs are being updated. The improvements in version 5's macro functions are better than what version 4.56 offered. However, the new version is otherwise pretty much compatible with the older one.

[Editor's Note: TP v5.0 is Shareware and will appear on AC's February Software Disk. Regrettably, the TP docs take up almost two whole disk sides, so we are unable to offer the docs. See Steve Hoffee's February Disk Index article elsewhere in this issue for info on obtaining a full copy of TextPro with complete documentation. - BP]

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We have a Public Domain library of 172 mostly double sided disks. P.D. disks can cost as little as $2.50 a disk! A full listing of disks is in our full catalogue.

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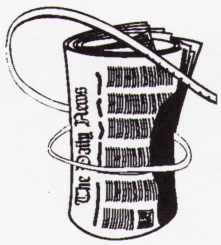
We now have stocks of the Rambit data recorder turbo charger. Get load speeds of up to 3500 baud on your 1010/XC12! Simple solder-in kit with conversion software on tape, and fitting/ operating instructions. Software will allow you to convert tapes to turbo load format. The cost of this kit is $30, including shipping.

All prices are quoted in US$, and include Air Mail shipping from the U.K. to the U.S. All payments should be made in CASH in US$. You can also pay by IMO in UK£. Simply halve the US$ price to get the UK£ price. Other countries should pay in UK£ by IMO. Prices to the U.K./Europe are less. Details will be sent with your catalogue. Digi-Studio is available direct from: LANCE TAYMAN, 844 KERN STREET, RICHMOND, CA 94805. All other products are available direct from:

D.G.S., 62 THOMSON AVE, BALBY, DONCASTER, DN4 ONU, ENGLAND.

Phone: +44-302-855-026



News Roundup: Happenings In The 8-Bit World

Compiled by Ben Poehland, Managing Editor

GOODBYE, BELLCOM!

Software PD Distributor BellCom of Peterborough, Ontario (Canada) officially ceased supporting the Classic Atari on February 1, 1994. Orders received postmarked later than January 31 are being returned. Owner Don Bell had earlier announced he would close the doors on December 31, but apparently had a last-minute change of heart and waited one more month. *AC* is hopeful that some entrepreneur in the 8-bit community might buy out Don's library and again make his collection available to users.

LAST CHANCE LIBRARY ON CIS

Much to the displeasure of long-loyal Atari 8-bitters, CompuServe recently reorganized the Atari forums to reflect Atari Corporation's primary marketing interests, the Jaguar (ATARIGAMING) and the ST/Falcon computers (ATARIPRO). In the process, the ATARI8 Forum (so well-described in the October '93 *AC* by Telecom Editor Lawrence Estep) has ceased existence as a distinct entity and has instead been placed under the games banner at CIS. Although many 8-bitters were indignant at once again having their Classic Ataris branded with the stigma of a mere videogame, it was the only viable alternative to kicking the Atari 8-bit into the Orphan Computer Forum along with other long-forgotten names like the Coleco Adam and Timex/Sinclair. Indications are that the ATARI8 Forum has been a money-loser for the past several years.

A "Last Chance" library of soon-to-be-erased files was created for users who'd like one last shot at some of CIS's less-accessed files. Due to the weather-related disruptions in this issue of *AC*s production cycle, we can't say for sure the files will still be there when this issue gets mailed. Users can still access the Forum by typing GO ATARI8 as usual, then look for the Last Chance files in Library 8. Contact sysops Don LeBow [76704,41] or Bob Puff [76702,1076], or *AC*s Telecom Editor Lawrence Estep [71450,1050] for latest info. There exists a possibility that "Last Chance" files accessed often enough might get restored to the regular archives.

ICD SELLS 8-BIT RIGHTS

In the October '93 issue of *AC* we announced that ICD, Inc. was seeking to sell all rights to its former 8-bit product line. AC is delighted to report that the former ICD and OSS hardware/software product line has indeed been transferred to a new California-based enterprise called Fine-Tooned Engineering. FTE proprietor Mike Hohman has already begun distributing warehouse stocks of cartridge-based products obtained in the transaction. The formation of FTE, and the revival of the venerable ICD/OSS product line, is seen by *AC* as the one bright development in an 8-bit market that is showing increasing signs of weakness in 1994.

In addition to reviving the old ICD product line, FTE appears to be vigorously pursuing development of its own products as well. The "MARS-8" product presently under development at FTE is described as some kind of "wonder board", capable of internally accomodating several ROM-based software products as well as OS enhancements and monster amounts of RAM 8-bitters have traditionally associated with products from Newell Industries. FTE has promised to send *AC* one of these miracle boards when it's finished; we're taking a rather conservative attitude until it has passed muster in the hands of The 8-Bit Alchemist (who is well-known as a hard sell). We at *AC* are impressed by the intensity of effort now underway in California and wish Mike and his new company all the best in their future endeavors.

IA8 SNAFU ON INTERNET

Readers addicted to the Info-Atari8 Digest on Internet are by now suffering serious withdrawal symptoms. Cross-posting and compilation of comp-sys-atari-8bit messages on USENET to the Internet Digest broke down in November '93 and was still inoperative as of this writing (mid-February '94). There have been occasional temporary disruptions of service in the past, but none have lasted this long. A number of rumors are flying around about the cause of the problem, which (like most things on Internet) still remains a mystery. *AC* takes a personal concern wth the recent problems. Aside from CSA8-IA8's role as a vital link for sharing information within the worldwide 8-bit community, this publication itself traces its roots to that forum.

To complicate matters, at the begining of this year John Dunning announced his desire to vacate the position of Digest Moderator he has served for the past five years. Several people have stepped forward to offer their services as Moderator (including *AC*s own Mike Jewison), but the situation still appears very muddled at the moment. Aside from his services as IA8 Moderator, John Dunning is fondly remembered as the author of the best PD KERMIT terminal emulator program written for the Classic Atari. We're sorry to see him go and wish him well. Now, if somebody Out There can just fix the Digest... .

MITSUMI MECHS

Another supplier of the increasingly rare 360K Mitsumi drive mechanism for the Atari XF551 floppy drive has popped up in the pages of *Computer Shopper* (we only hope they still have them by the time this issue of *AC* gets delivered!). Check out PC Discount Center, Inc., 4341 DiPaolo Center, Glenview Illinois 60025 USA. Phone toll-free: 1-800-245-7453. Listed price for the Mitsumi mech is $55. They take VISA/MasterCard. *AC*s advice: "Gitt'em while the gittin's good!". The XF551 can actually use any standard IBM-type 360K drive, but only Mitsumi mechs can be conveniently used because of the position of the internal interface cable which Atari made only long enough to fit Mitsumi mechs and no others.

OHAUG CALENDAR DISK

Got three bucks? Send it to Ron Fetzer, 22 Monaco Avenue, Elmont NY 11003 USA along with your request for the OHAUG Calendar Disk. This little gem contains a Yearly Calendar that lets you mark important dates, a Pocket Calendar to use with memos, and a Personal Daily/Monthly Calendar for recording personal notes and reminders. For good measure these OHAUG guys threw in a Disk Cataloger program for helping users organize their collections of disk-based software and data. Nice printouts, all docs included. Try it, you'll like it!

From The Editor's Desk... 1994: "We Have To Write The Word 'Finito'"

by Ben Poehland, Managing Editor

New Policies For 1994:

1.) As of January 1, 1994 prices for back issues of *AC* magazine or disk have been raised to $5, inside or outside the USA.

2.) As of January 15, 1994 a moratorium has been placed on all new subscriptions to *AC*. New subscriptions received after January 16, 1994 will be returned.

3.) Readers whose subscriptions expired with the October 1993 issue (label #1093) whose renewals weren't received by December 4, 1993, have missed the December 1993 issue. That issue is now in short supply and is available only as a Back Issue. (See the masthead on page 3 for information on obtaining Back Issues.) October renewals received after December 5, 1993 will commence with the February 1994 issue.

4.) Readers whose subscriptions expired with the December 1993 issue (label #1293) whose renewals weren't received by February 5, 1994 have missed the February 1994 issue which will be available to them only as a Back Issue at the new higher price. December renewals received after February 6 will be rejected.

5.) This magazine will pass into history after the April 1994 issue. A notice will be published in April giving current subscribers information about their subscriptions.

6.) The subscriber list was "frozen" on February 5, 1994. Current subscribers as of that date will be maintained until *AC* ceases publication. No renewal notices will be mailed in 1994, and spontaneous renewals received after February 6, 1994 will be rejected.

Foreword: the title of this editorial is a quote from Count Galeazzo Ciano to his father-in-law, Benito Mussolini, informing him of the impending collapse of Italy's Fascist government in 1943. Mussolini executed Ciano in January 1944.

Hobson's Choice

Since December 5, when I was forced to order our publisher to reduce the press run of the December *AC* due to a drop-off in subscriptions, I've been losing sleep. I keep having this recurring dream, one I've had before in periods of stress induced by a conflict between the desires of my heart and the dictates of common sense. The details vary, but it's always the same dream. I had it for the third time just last week, and the profound state of distraction with which it starts my day has begun to affect my performance at work. Here's the script:

I'm driving a car (not my own car, it belongs to someone else) on a modern superhighway and come to a large body of water spanned by an enormous steel-and-concrete bridge. The bridge resembles the Walt Whitman Bridge spanning the Delaware between Pennsylvania and New Jersey, or maybe it's the Chesapeake Bay Bridge connecting the environs of Baltimore to the Eastern Shore of Maryland. (My apologies to those of you who haven't seen—or even heard of—these places.) The paved highway continues onto the bridge, and as I drive up on it I'm feeling very secure. Waves appears as mere ripples on the surface of the dangerous water hundreds of feet below.

Suddenly the bridge isn't so high any more. The roadbed is now quite low to the water, like the Chesapeake Bay Bridge-Tunnel on the Maryland side (again, my apologies). The foaming tops of angry waves are splashing up over the roadbed. I don't like this. I glance anxiously in my rearview mirror to find out what happened to the tall steel bridge I started out on: there's nothing there. There's a sudden rattle under the car. Instinctively, I tighten my grip on the wheel and am dismayed to see the road before me is no longer paved. I'm driving on rickety wooden slats, like the old piers I used to fish from on the Rappahannock River in Virginia as a kid (more apologies). It's single lane, no guardrail. I worry what will happen if I meet another car coming in the opposite direction.

My alarm intensifies as I glance at the water. It's muddy brown, ugly, menacing. Roaring and foaming. A river in flood. A sudden cessation of the rattle under the car brings my attention back to the road. There's no road. Just two slimy wooden planks, one under each wheel of the car, with a gap in between. And these planks lead *straight down into the foaming brown abyss.* Desperately seeking options, I again glance rearward—into nothingness, which scares me more than the raging water. I want to back up, go back the way I came. Nope, nothing there, just blackness. I stomp on the brake. It fails. I throw the gearshift in reverse. The knob comes off in my hand. I feel the car inclining downward. I don't want to go forward, but I can't go back. No choices left. I switch off the engine. Too late, I'm engulfed in the raging brown foam.

I awake flailing and thrashing, gasping for air, my heart pounding my ribcage with jackhammer blows. Consciousness gradually seeps in like a soothing salve, telling me it isn't real, it was just a dream. My breathing slows, my pulse drops. The first pale rays of a winter dawn are peeking through the window. It occurs to me that, once again, I've been presented with Hobson's Choice. The Devil or The Deep Blue Sea (or brown, as the case may be). Bummer, the alarm clock goes off. I stumble groggily into work, ignoring the famliar sight of all the hi-tech instrumentation in the chemistry lab. My thoughts are preoccupied by the unhappy decision I know I must make. A decision I've put off too long.

The Vanishing Bridge

I'll save myself much work by asking you to dig out your copy of the April '93 *AC* and read my article titled "Us Guys Iz Yooze Guys". Everything I said then applies now. The troubled subscription history of this magazine in early 1993 is repeating all over again in early 1994.

For most of 1993 *AC* was undersubscribed. Our first five issues were literally acts of faith. During the first half of 1993 I was biting my nails to the quick with each issue, hoping beyond hope we'd reach our mandated minimum of 500 subscribers. Ever so slowly, the magazine grew. By September of '93 we finally reached our goal of 500, even surpassing it slightly with the mailout of about 530 paid subscription copies in October. The swelling sense of confidence and optimism (ah, that mighty steel bridge) I felt during the summer and fall of

'93 lulled me into complacency. I eased off worrying aout the future of the magazine and began putting my effort into improving its quality.

Dare I say it? For a brief moment, I allowed myself to have a little fun. Those of you enjoying improved sound and video in your computers know firsthand what it means when I "have a little fun". The added graphics in the October and December issues, and the extra pages in the December issue, didn't happen by magic. The extra work required took a huge bite out of my private life.

I had the December issue under active production for a full six weeks, about twice what I spent on any other single issue. I began it in October, when renewals were coming in. Maybe I should have kept a daily count. But I was busy working on the unique challenges presented by the December issue. It was all I could do to open the envelopes, place the forms in a box, and return the occasional "defective" subscription (where subscribers or the post office made obvious screwups). The physical bulk of all the paperwork made an impressive appearance. It *looked* like the subs were just rolling in, I had nothing to worry about except getting the December *AC* out the door. Which was a plenty big job all by itself.

On the weekend of December 4, with the December issue already en route to the printer, I had to update the subscriber list and print out the mailing labels. That job took about 16 hours—the entire weekend. When it was done I ran a count of current subscribers for the stat sheet I always furnish our publisher. I didn't believe the figures at first, I ran the stats again. (Now the bridge is much lower, see the waves splashing onto the road?) We had lost 150 readers. I contacted the publisher and told them to reduce our press run for December. Just like I did a year ago this time for the February '93 issue (which is now sold out). After putting so much effort into the December issue, it was a crushing blow to then have to turn around and order the press run reduced.

It got worse. With the mailout of the December *AC*, approximately 60 additional subscriptions expired. I personally mailed out those notices on the morning of December 6 (on my way to work). As of this writing (the middle of January) only about 35 of those have come back. The usual constant trickle of new subscribers and late renewals mostly offset these late December losses. Even so, by January 1 of 1994 we were down to 375 subscribers: about where we were a year ago. (Mama, how did I get onto this rickety wooden pier?)

A New Phase

During the first year of our existence, we could only *add* subscribers to our rolls. In August (well, June actually) this publication entered a new phase of existence. You'd think someone (our publisher?) might have warned me. Nope. As with all things connected with this strange enterprise, I've had to learn the hard way. (When you're totally ignorant, you don't even know what questions to ask.) This new phase has to do with cycles of subscription renewals. In this phase, you not only add people to the rolls, but you also now have the capacity of losing them. I would describe it mathematically as a shift from simple addition to the dynamics of a first-order differential equation. Maintaining an accurate summation of the dynamics on a daily basis requires vigilance. I wasn't in a position to be vigilant, even if I had been aware of the coming change in subscription dynamics.

There were about 15 subscriptions that expired in June and August combined. Notices were sent; most failed to renew. That was an alarm signal, and I missed it. It was masked by the constant trickle of new readers (about 5/month) we're always adding. The only thing I noticed was that the growth spurt we experienced in the spring of '93 seemed to have slowed down a little, then resumed its usual pattern of slow but steady increase again in September. It seemed normal to me. Things usually slow down in the summer, right? People are away on vacations and stuff. Hey, no big deal.

Then came October, when roughly 70% of our reader base turned over. While I was entirely preoccupied with production on the December issue, the you-know-what was hitting the fan. Very insidious, how magazines die. It happens slowly, quietly. Real easy to miss if you're preoccupied (and brother, was I ever!). Until you sit down one day and do a little counting. Then it hits you like a ton of bricks: 35% of the renewal notices never came back. Pretty much the same pattern for December, too. October and December together account for almost 85% of *AC*'s renewable reader base. Those two renewal cycles determine our future.

If you're the type who likes to play with numbers, play with this: *AC* will start this subscription year with 380-400 paid subs, 20% below our mandated minimum. We'll lose 1/3 of those by this time next year. We'll add about 60 new readers during the same period (assuming the "trickle rate" holds up, and the Killer Winter of '94 seems to be clobbering it). The most optimistic projection sees us ending the year with 70 fewer than we now have. We are falling ever further away from the minimum 500 we need to sustain this effort financially. We can't go on like this. How many more readers will silently disappear during the renewal cycles in the year ahead? And, at what point will *AC* run upon the shoals of bankruptcy?

I don't intend to find out.

The CSS Factor

In early December, Computer Software Services made a rare mass mailing to their customer list, informing them of new product offerings. (Some of you may recall receiving this.) Included in the package was an *AC* subscription form, and in his cover letter CSS proprietor Bob Puff devoted a paragraph saying lots of nice things about *AC*. Already despondent over the jolt I received at counting up our October losses, I looked to the CSS mailing to save us by bringing in 135 new readers by the middle of January 1994. It seemed possible. The CSS mailing was a major effort: 900 pieces. Surely, a 15% response wasn't asking too much? For the next four weeks I clung to this as our last chance for a miracle. The anxiety was unbearable. And this recurring dream started.

My agony went for nothing. The miracle didn't happen. Not even close. By January 15 the CSS mailing had netted *AC* only 13 new subscribers plus two renewals. Devastated, I struggled within myself to accept the brutal facts.

Hollow Numbers, Ugly Equations

Groping for perspective on the dilemma, I went back to the beginning: the Mail Campaign of 1992. Our

stated goal was to find 500 people who would commit themselves to supporting the magazine. We collected 615 signed postcard pledges. Certainly more than enough.

Rubbish. Of those 615, only about 260 ultimately honored their pledge in 1992-93, and some of those took their sweet time doing so. If the Campaign Committe could have known this in May of 1992, it would have declared the Campaign a failure, and *AC* would never have begun. By late 1993, it was finally clear that 60% of the signatures collected by the Committee were worthless. In short, *AC* was founded upon a lie and has been living on borrowed time from the beginning.

The only things that kept us afloat financially were the conservative nature of the business plan I concocted for this weird experiment, plus a lot of hard work on the part of our Advertising Editor, Disk Editor, and Disk Distribution Manager whose labors brought in enough revenue to cover our subscription deficiencies. Financial solvency is a necessary, but not alone sufficient, requirement for the ultimate success of *AC*. Making money is not what we are about.

Balanced against the good this publication has done for the community is the effort required to produce it. I think the *AC* Staff will agree when I say the effort required far exceeds what any of us expected. That especially applies to me. This magazine has now totally usurped my private life, replacing a few close personal relationships with a multitude of more distant ones. I serve as pivot-point between staff and publisher, and the relations between these two vital components of *AC*'s operational machinery haven't always been entirely cordial. The emotional consequences of this were slow in developing, but are now clear: I'm coming unraveled. I've asked more of myself, and of the staff, than human flesh can deliver.

I finally distilled the question down to its ugly essentials. How many *AC* readers are worth the utter destruction of my private life? (What a hideous equation!) Incredibly, I came up with a figure: 500. But, we don't have 500. We never really did (a growth spurt last spring due to transfers from the demise of AIM artificially swelled our base, but nearly all failed to renew). This, then, is the turbulent reality I had striven to ignore: the muddy maelstrom of Truth, against which I've flailed in vain these past weeks in the nether-world of dreams. That solid span of concrete and steel, that bedrock foundation of 500 subscribers, was a myth (no wonder it disappeared behind me!). The equation does not balance, and I do not possess the emotional fortitude to face another year with this magazine barely clinging to the edge of existence. It's time to end the agony of anxiety that has characterized this publication since it was launched.

Closing Up Shop

Although the engine I created to operate *AC* never ran as smoothly as I envisioned, as in the dream its forward momentum can't be stopped by just turning a key or throwing gears into reverse. It took a long time to start, it will take awhile to bring it to a controlled stop.

I'm still trying to figure out exactly how to do it. Hopefully I'll be able to supply details in the April issue. Like many of you, I live in the shadow of the demise of *Analog*, *ANTIC*, and AIM. The collapse of those publications left a bitter residue of cynicism from which the community has never quite recovered. If at all possible, I intend to see to it that *AC* doesn't end that way. I believe the resources exist to enable us to make refunds. Working out the logistics will take some doing. Just as the creation of a magazine was new ground for me in 1992, so the dismantling of one—with minimal financial impact on those of you who faithfully supported us—will be my challenge in 1994.

The SLCC Consortium

Now that I've got you totally bummed out with all this depressing news, I'll offer a glimmer of hope. In January and February I had several lengthy discussions with *AC* Staff Reviewer Bob Woolley of the San Leandro club in California, who is just as concerned about the future of the 8-bit as you and I are. Bob seems to have secured an agreement with Jim Hood (an accomplished graphic artist, DTP person, 8-bitter and President of SLCC) to produce an all 8-bit magazine to carry on the traditions established by this publication.

Bob and Jim appear prepared to accept the fact that their publication might have barely 300 subscribers. Bob mumbled something about it maybe being 40 pages. Will it be bimonthly like AC presently is? Probably. How much will the subscription cost? I don't know. Will they publish a disk? I don't know. Will any of *AC*'s present Staff go to work for this new publication? I don't know. Will the new publication even be called *Atari Classics*? I don't know.

Bob agreed to have his "consortium" submit a 4-page article, pre-typeset, to be included in the final (April '94) issue of *AC*. The idea being to give all present subscribers to *AC* an opportunity to sample the flavor of whatever this SLCC Consortium might produce. Our plan is to include a clip-out form you'll be able to mail off to these guys if you like what they do in our April issue and feel you'd like to support their effort. I've given them a deadline of March 15 to submit their material for inclusion in the April *AC*. I'm *real curious* to see what, if anything, arrives in my mailbox from Bob and his co-conspirators at SLCC.

The California effort is entirely independent of the present *Atari Classics*, and the shutdown of this publication will proceed according to a plan I'm still working out with Unicorn Publications, whose details will hopefully also be presented in the April issue. It's getting to be a very strange world for Atari 8-bitters in 1994.

The 2600 Connection

The newsletter for Atari 2600 Videogame owners, players and collectors. Receive a sample issue of 100% coverage of the machine that started the home videogame craze! Each bimonthly issue contains news, hints, tips, reviews, solutions, and more.

Send $1 for your sample issue to:

Tim Durante, Editor
The 2600 Connection
PO Box N664
Westport, MA 02790-0298

AC Software Disk Index: February 1994

by Steve Hoffee, AC Disk Editor

Our Last Disk

As I sit here in front of my trusty 8-bit, I find myself saddened by the prospect that yet another gallant attempt to unite the Atari 8-bit communitiy is coming to a conclusion. It looks like this will be the last *AC* disk produced. It's been two years since the Mail Campaign started, but it seems like only yesterday. I've thoroughly enjoyed working with the many talented and creative folks on *AC*'s staff and subscriber list, without whose contributions and dedication these disks and magazines would've never gotten off the ground.

This final disk contains programs for the December 93', February '94, and April 94' issues. It again features the nifty menu written by Earl (Clay) Halliwell and is packed with more excellent programs. For you gamers, you'll find two European imports with some of those illustrious graphics and music so characteristic of the best 8-bit European software. Without further ado, here's what you have to look forward to on this month's disk:

Side One:

ColorView 2.6 Documentation- This was also on our October '93 disk, but due to an error (by someone in the disk editing department who will go, umm, un-named) this shareware program's docs weren't all there. My apologies to Jeff Potter and anyone else inconvenienced by this!

Color Pot Tuner- A great little BASIC program by *AC* Graphics Editor Jeff Potter that appeared in our special Video Issue. Having problems with getting the correct colors your 8-bit should produce? This program will cure what ails it. [*AC*, December '93]

Golfer- A fun golf game by Jiri Bernasek and BEWESOFT originally designed for the German club ABBUC and submitted to *AC* by our own Bob Scholar.

Daisy Dot Font Examiner- Tom Andrews has done it again with this BASIC program that lets you incorporate those nice near-letter quality fonts from the original Daisy Dot and Daisy Dot II into your own programs. [*AC*, February '94]

BONUS GAME- This bonus game, from The Grim Reaper by AURA, is an 'Arkanoid' type game entitled Ataroid. In order for it to run properly, you must boot it without BASIC and run it from the "L" option from DOS. More detailed instructions are on the disk.

Side Two:

TextPro 5.0x- This is the latest release of the ever-popular shareware word processor by Mike Collins and Ronnie Riche. Included with this version is a very helpful **Quick Reference Screen** by Bob Scholar [*AC*, February '94] and quite a few **New Macros** designed by *AC*'s Jeff McWilliams for SpartaDOS-X users [*AC*, April '94]. Information is also included on how to get in touch with Ronnie Riche to register the program, as well as receive the latest version (if any) and full documentation.

ECHO.COM for SpartaDOS-X- This program by Jeff McWilliams automatically creates a time and date stamp and includes it as a header in your letters produced with TextPro 5.0x. [*AC*, April '94]

Treasurer's Report- For all you club treasurers out there, OHAUG's Ron Fetzer has compiled a TurboBASIC program for your every need. Packed with features, this program will make any club treasurer's job much easier. This program will run directly from *AC*'s main menu, but there's a help file on disk with complete directions on how to transfer the necessary files to another disk and make it self-booting. [*AC*, February '94]

Thanks, Everyone!

A Big THANKS goes out to the many individuals and usergroups whose contributions were crucial to the disk and magazine, but I feel the need to especially thank the one person who has put more "Blood, Sweat and Tears" into this venture than anyone. THANK YOU Ben (The Alchemist, Managing Editor, Circulation Editor and much, much more) for your dedication, friendship, sense of humor (warped as it may be), patience and understanding. Very few of us really know how much of your time, effort and money have gone far beyond your duty or obligation to this publication. My hat's off to you!!! *[Aw, gosh, it's only ME, nyuk! nyuk! nyuk! Warped humor, hey-- watcha expect from a Melonhead? Anyways, you're the best Disk Editor and Funnybone Tickler I ever had and I'll punch out anybody who says different. - Ben]*

I also couldn't finish out my tenure without acknowledging the love, patience and support I've received from my wife Karen and my daughter Stefanee. Their devotion and assistance has time and again sustained me in my effort to provide *AC*'s disk subscribers with the best possible product.

ERRATA

December 1993 *AC*

With all the technical detail of the video hardware articles in our December issue it was probably inevitable that a few bloopers would sneak in. Fortunately none are catastrophic and are readily obvious to anyone who attempted the hardware hacks. Here's the list of corrections sent in by readers so far:

Page 9, Step 3. Change "R53" to "R52".
Page 23, Step 4. Change "R205" to "R204".
Page 23, Step 5. Change "Q3" to "Q2".

Atari Classics expresses its thanks to readers who brought the errors to our attention. We'll be glad to report any additional errors that turn up.

Also, beginning in the Fall of 1993 *AC* ceased accepting delivery of Certified or Registered Mail items. The Post Office doesn't deliver these items to *AC*'s Editorial Offices since they require a signature and no one is there to sign. They must be retrieved during normal business hours at a different station than *AC* uses for outgoing mail, which causes your Managing Editor to be late for work and yelled at. There is never any reason to send *AC* mail items which must be signed for. A notice which should have appeared in the December '93 Subscription Form about this was omitted by our publisher. *AC* regrets any inconvenience.

October 1993 *AC*

There were several changes that should have been made to our Vendor List in the October *AC* (pages 27-28), but which for various reasons never made it. The publishing arm of BaPAUG in England faded into history during the summer of 1993; *AC* received the news of the demise of 8:16 magazine from Colin Hunt after the October issue was already in press. We understand the Bournemouth and Poole usergroup is still around although no longer publishing 8:16. Also, we failed to include the major British vendor Micro-Discount (265 Chester Road, Streetly, West Midlands, B74 3EA ENGLAND; phone: 021-353-5730). Micro-Discount's 32-page catalog is chock-full of hardware and software items, including a few goodies not seen in North America. Finally, indications are that San Jose Computer is no longer a viable source of Atari 8-bit items, and BellCom closed out its 8-bit PD operations on February 1, 1994. We urge readers to make the appropriate changes in their copies of the magazine.

Our apologies to readers who attempted to type in Tom Andrews' CYCLOIDS listing on pages 18-20. Somewhere in the process of transmission and DTP, lines 250, 330, 350, 430, 580, 620, 630, and 670 containing ATASCII characters got translated to standard ASCII values in the printed listing. There is no problem with the program as it appeared on our October Software Disk, just the printed listing. The errant code is correctly reproduced on the rear cover.

Swap 'n' Shop

A Flea Market For All Atari 8-Bit Users!

8-BIT SOFTWARE Virtually every program ever made for the 8-bit Atari. Many new releases from Europe, too many to list, 1700 game titles alone. Send $1.00 for double-sided enhanced-density disk inventory. Selling out everything. Charles Kormos, Tampa Computer Orphans, 3530 Del Lago Circle #238, Tampa FL 33614.

CUSTOM ATARI ROMs for sale. Have 39 REV C ROMs for 810 disk drive (Atari part #COO1299C/CO11299C), $45 takes the lot. OS ROMs for 800: 4 each of CO12399B, CO12499B, CO14599B, $20 for all. 1771 FDC chip for 810 drive (Atari #CO14329), have 13, $30/all. Custom 6502 CPU for 800 (Atari #CO14377, "Colleen"), 5 each, $15/all. 6532 RAM-I/O-Timer-Array (RIOT) chips for 1050 drive, have 14, $35/all. Package deal $130 for all items in this ad. Prices include shipping, US funds only. **WANTED:** 360K Toshiba floppy mechs. Ben Poehland, 179 Sproul Rd./Rt.352, Frazer PA 19355. Internet: poehland@sb.com or poehland%phvax.dnet@sb.com.

START YOUR OWN P-D LIBRARY! With well over 500+ DS Disks and we'll even make you your own custom disk-based catalog. Everything you need to start your own Atari 8-bit PD business for only $650, shipping included. Steve Hoffee/L.A.P.D., 333 Peninsula Drive, Lake Almanor CA 96137. GEnie: S.HOFFEE2.

SALE 49 Atari 2600 games, Atari 2600, 1 joystick, paddle controllers, & power supply for $100. Also programs for the Atari 8-bit computers on disk. Send $1 for a list of the programs on my inventory disk. Ron Visconti, 33 Union St., Everett MA 02149.

MAKE SPELLING FUN on 130XE: Spend quality time with your children creating audio spelling lists. My programs allow tape to be replayed. Answers can be typed or written. Programs feature kid-tested prompts and musical rewards. For more info send SASE to: J. Chiko, 6914 Bentley, Darien IL 60561.

SALE 800 w/48K GC $25; 800 w/48K BC $10; Percom SSDD disk drive FC $40; Atari XDM-141 daisywheel printer EC $50; Atari 1025 printer BC (needs printhead) $10. Shipping extra. Lance A. Brisee, 47 Van Buren Avenue, Ravena NY 12143-1311. 518-756-8003.

WANTED: Printer interface for Big Blue printer. Jeff Morgan, 2245 E. Racquet Club, Palm Springs CA 92262. 619-327-5729.

SALE Amdek color monitor; Atari home computer-1050 disk drive; Data Management System program; Atari Weekly Planner. Still boxed, never used. Serious buyers only. Kenneth Huber, 216-868-7696, leave message.

I HAVE THE FOLLOWING equipment for sale: working 1050's $35 (nonworking 1050's $15); XF551's $70 (nonworking XF551's $30); NTSC analog color monitors (Amdek 300 & Commodore 1802, both have luma-chroma & composite inputs), $65; 410 tape drives $12. Computers: 800, $20; 600XL, $20; 800XL, $30; 65XE $30. All equipment comes with power supplies & cables. I occasionally get 850's ($25), 130XE's ($75), & XMM801 printers ($75): call for availability. Extra power supplies, $5-$10. All equipment is used in GC to EC depending upon equipment type. UPS shipping cost depends on pkg wt & zip code, call for info. David Aronson, 2911 Bree Hill Road, Oakton VA 22124. 703-620-6183 evenings/weekends.

NEW IMPROVED! AW+ & AW80 RAMboot disks for 256k & 1-meg. Go back & forth from AW to MyDOS without losing text, plus Spell Check RAMdisk operated program. Full instruction file on Side 2, plus MyDOS write file for 64k/128k. Disks w/boot instructions $25, specify make of 256k or 1-meg, AW+ or AW80. Brad Rand, 255 Falmouth Road, Falmouth ME 04105-2005. 207-781-4877.

8-BIT BIBLE STUDY group programs: LESSON3.BAS, LESSON1-3.TXT (sample text files used in church Youth Group). Complete set- "Life of Christ" soon available! AtariWriter+ compatible. Future versions for ST,IBM,MAC. "Proverbs" being compiled, write for availability. Also BIRTHDAT.BAS, SORRY5.BAS (cardgame utility). Cal Franklin, Meadowbrook RR1 Lot #108, Fremont NE 68025. 402-721-5425.

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Code for Errata, page 30:

```
250 OOPS=WON:PRINT "INVALID INPUT■":FOR DELAY=WON TO 100:NEXT DELAY:RETURN
330 POKE 710,HUE:POKE 709,LUM:PRINT "■":POSITION 16,5:PRINT "CYCLOIDS"
360 CIO=ADR("hhh■LV■")
430 ? "■":? "COMMANDS: RETURN-CONTINUE"
580 ? "SAVE DRAWING":? :? "Device:Filename?":? "RETURN ABORTS ";:INPUT FN$:IF FN$="" THEN 430
620 ? "■OOPS NUMBER ";PEEK(195):CLOSE #WON:FOR DELAY=WON TO 300:NEXT DELAY:GOTO 430
630 ? "LOAD DRAWING":? :? "Device:Filename?":? "RETURN ABORTS   ";:INPUT FN$:IF FN$="" THEN 430
670 ? "}1. HYPOCYCLOID (BASE OUTSIDE)":? "}2. EPICYCLOID (BASE INSIDE)";
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